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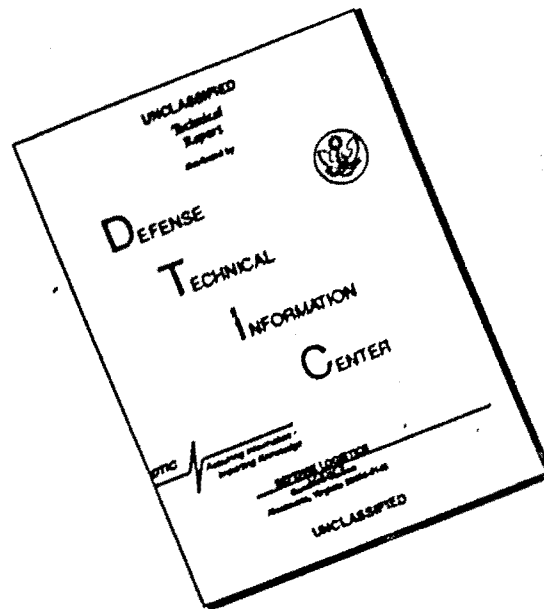


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COMPREHENSIVE REPORT ON  
PREDICTIVE SYNTACTIC ANALYSIS

Murray E. Sherry

September 1961

Electronics Research Directorate  
Air Force Cambridge Research Laboratories  
Office of Aerospace Research  
United States Air Force  
Bedford Massachusetts

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#### ABSTRACT

Predictive syntactic analysis is a scheme for the automatic syntactic analysis of natural language that is based on a continuous left-to-right scan of a sentence. This report supersedes previous reports on the experimental predictive syntactic analysis program for Russian. All the grammatical rules followed by the experimental program are here included. This paper is intended to serve at this time both as a report of past accomplishments and as a working paper on which to base future research.

## I. COMPREHENSIVE REPORT ON PREDICTIVE SYNTACTIC ANALYSIS

Murray E. Sherry

### 1. Introduction

Predictive syntactic analysis is a scheme for the automatic syntactic analysis of natural language that is based on a continuous left-to-right scan of a sentence. Past experience has been largely limited to the syntactic analysis of technical Russian texts,<sup>1,2,3,4</sup> although several attempts to analyze English texts by this method have been made.<sup>5,6</sup>

This report supersedes previous reports on the experimental predictive syntactic analysis program for Russian. All the grammatical rules followed by the experimental program are here included. This paper is intended to serve at this time both as a report of past accomplishments and as a working paper on which to base future research. It is specifically not intended to be a concise summary of the predictive syntactic analysis scheme for the casual reader. Various brief outlines of the predictive method have been presented in earlier papers listed in the bibliography.

The experimental program is still far from complete. A number of grammatical structures, such as interrogative sentences and idiomatic constructions, have not yet been taken into account and, therefore, cannot be analyzed correctly at this time. No means of analysis for such structures will be suggested here unless their analysis seems to parallel closely that of an existing analysis technique.

Detailed operation of the experimental predictive syntactic analysis program is not mentioned here. These programming techniques and the problems

inherent in them are discussed at length by Isenberg<sup>7</sup> in another section of this report.

Experience has shown that, although the individual operations performed in the predictive analysis program are not formidable conceptually, en masse they are exceedingly difficult to master. The method adopted for the presentation of the operations is to start with the simplest ones and build on this base to the more involved mechanisms used in the program. This presentation is supplemented by a concise, complete, cross-referenced set of rules for the present analysis program (Appendix A). With these rules the reader can duplicate any analysis described or illustrated here.

Explicit examples from analyzed text have been included wherever possible to summarize the vast number of details that are covered. Hopefully, these examples are sufficiently varied to preclude the necessity for the reader to study the individual analyzed texts, since the scanning of texts is an extremely laborious method for studying program output. The majority of the words from the texts occur in a few simple grammatical constructions which are repeated endlessly.

Four texts, listed below, amounting to approximately 5500 running words, have been analyzed by the latest experimental version of the program and are the basis for the examples in this report:

Text 00A: Владимирский, К. В., "О синхронном фильтре," Журнал экспериментальной и теоретической физики, том 21, вып. 1, физический институт имени П. Н. Лебедева, АН СССР, 1951, 8 стр.

Text 00K: Гнеденко, Б. В., Курс теории вероятностей, глава 10, параграф 48, "Вводные замечания," Государственное издательство технико-теоретической литературы, Москва-Ленинград, 1950, 240-2.

Text OUU: Чебышев, П. Л., "Прочие сочинения биографические материалы,"  
Полное собрание сочинений П. Л. Чебышева, том 5, "Опыт  
элементарного анализа теории вероятностей," Издательство АН СССР,  
Москва, 1951, 27-8. (This text was suggested by I. Rhodes of  
the National Bureau of Standards.)

Text OOH: Печатные схемы сантиметрового диапазона, Сборник статей под  
редакцией В. И. Сушкевича, "Предисловие редактора русского  
перевода," Издательство иностранной литературы, Москва, 1956,  
5-7.

Texts OOK (924 words) and OOH (700 words) are taken from modern technical literature. Text OUU (545 words) is a small sample from a 19th century piece of technical writing. The analysis of this text is distinctly inferior to the analysis of any of the others due largely to the different syntactic rules followed almost 100 years ago. Text OOA (3270 words) has previously been used extensively to generate syntactic rules. This text has been re-analyzed with the latest version of the program although it has not been recently used as source material to improve the experimental program. Text COA has been rejected as source material to avoid biasing the program to the writing style of any particular author.

Two other texts were also analyzed by this latest experimental version of the program; these are texts \$ (816 words) and YYY (416 words). The sentences in text \$ were specifically composed to contain particular syntactic properties of interest that rarely occur in texts. The sentences in text YYY are interesting samples culled from several texts and brought together to provide material of greater than average grammatical variety to aid in testing and developing the predictive analysis program.

Several errors, either typing mistakes or program errors made during dictionary lookup, appear on the input tape of text \$. Rather than repeat the process of dictionary lookup, the input tape of text \$ was directly corrected. To distinguish the altered entries, the mark (CORR.ENTRY) has been entered, replacing the English correspondent in the 10-word item. The grammatical information placed in the corrected items is identical in every respect to the information which would have been automatically inserted by the appropriate programs.

Wherever possible, samples have been chosen from texts OOK and OOH. Texts OUU and YYY have been used as second choices. Examples not present in those four texts were chosen from text OOA, and text \$ was used only as a last resort. Extra words have often been left in the examples to indicate the context of the sentence structure being discussed.

More than one-third of the sentences in the six texts have been analyzed successfully by the experimental program. A "successful" analysis is one in which either the syntactic analysis produced by the program is grammatically correct or the error-detecting properties of the program are sufficient to indicate the correct solution. Due to the limited size of internal memory on the Univac II Computer, the computer used for the predictive syntactic analysis program, it has not been practical to provide for error-correcting routines. Thus there is no indication of error correction on the present output of the program.

Most unsuccessful sentence analyses are due to a single error. Several problems account for a large number of the errors: missing words in the Russian-English dictionary, no grammatical information for proper

names, no analysis for certain punctuation marks, etc. Other problems more closely associated with existing rules of analysis are mentioned in appropriate parts of this report.

As time passes, the remaining problems are more and more specialized. The rules for the solutions of these problems are utilized rarely and the size of the program increases rapidly. However, so long as the new rules fit into the basic scheme of the program, they can be easily incorporated.

The work on predictive syntactic analysis is an outgrowth of studies on a syntactic analysis technique by Rhodes<sup>8</sup> and the formalization of the syntax of the Łukasiewicz parenthesis-free notation by Burks, Warren, and Wright,<sup>9</sup> and bears general similarities to the linguistic model of Chomsky.<sup>10</sup> A theoretical model which is analogous to the predictive syntactic analysis program in several interesting aspects is due to Oettinger and the author.<sup>11 2,12</sup>

This report is divided into nine parts, each one dependent on the preceding ones. After a comprehensive outline of the predictive syntactic analysis technique (Part 2), the simple constructions of noun phrases are discussed (Part 3). Verb phrases and other relationships of government are then taken up in Part 4. More involved relationships among the components of clauses, the subjects and predicates, are discussed in Part 5, prior to the identification of clauses and complex phrase forms in Part 6. Parts 7 and 8 are devoted, respectively, to the identification of compound structures and other miscellaneous constructions. The various details are summarized by a series of examples of complete sentences analyzed by the program (Part 9).

Some of the comments and examples in this report were initially suggested by co-workers of the author. Mr. Warren Plath, in particular, has freely devoted many hours to the study of the analyzed texts. He has pointed out a significant proportion of the errors in the present program and has proposed means for correcting many of these errors.

## 2. The Predictive Syntactic Analysis Technique

The method of predictive syntactic analysis is based on the premise that a Russian sentence can be scanned from left to right, and that at any point in this process it is possible both to determine the syntactic structure of the word under consideration on the basis of the predictions made during the analysis of the words to its left, and to predict the syntactic structures which will be encountered to the right of the current word. Any language exhibiting the properties of a nested language can be analyzed in one direction in the same general manner.

In English, if a sentence is interrupted by a phrase or a clause, the embedded phrase or clause will be completed before the main clause is resumed. This embedded phrase or clause is considered to be nested within the main clause. Thus the clause "who came to dinner" is nested in the sentence: "the man who came to dinner ate heartily," whereas the unnested string of words, "the man who came ate heartily to dinner" is a questionable sentence at best. Another structure, the phrase "to dinner," is nested within the subordinate clause. A level, or depth, of nesting can be assigned to every phrase and clause in a sentence. Thus "the man ate heartily" is at the first level, "who came to dinner" at the second level, and "to dinner" is at the third and deepest level.

The concept of nesting recently has received the attention of several investigators. Alt<sup>13</sup> has discussed the problem of assigning numerical values to clauses and phrases within a sentence. Yngve<sup>14</sup> and Sager<sup>15</sup> have also used the nesting concept when discussing, respectively, the synthesis and analysis of English sentences. Sager uses the terminology of "depth of parenthesization" instead of "depth of nesting" since she conceives of an approach whereby a pair of parentheses is placed around every identifiable nested structure. Plath<sup>16</sup> has presented a method for diagramming nested structures and parenthesizing each of these structures.

The terminology for describing the predictive syntactic analysis technique has evolved parallel to the development of the technique itself. The original terminology has undergone a complete revision in addition to several minor modifications. The terminology to be described in this section is merely the latest and, hopefully, the most meaningful set of terms.

#### A. The Program Cycles for Predictive Syntactic Analysis

Predictions of syntactic structures are stored in a prediction pool which behaves somewhat like a pushdown store, a linear array of storage elements in which information is entered or removed from one end only, in accordance with a "last-in-first-out" principle.<sup>11</sup> New predictions are always entered at the top of the prediction pool, and the predictions are tested starting at the top of the pool and proceeding downward. The topmost prediction in a pool need not necessarily be the next prediction to be fulfilled.

In the experimental program the predictions used are those of the syntactic roles that the words assume in a sentence. Many predictions are named for classical syntactic roles such as the subject prediction. All

these names are explicitly defined within the context of the experimental program. These definitions need not coincide with the classical grammatical definitions, but they resemble the classical definitions closely.

The present program uses 10-word\* items both for input and for output (Figure 1)\*\* to take advantage of the input-output characteristics as well as certain internal operations of Univac I and II Computers. The first English correspondent stored in the dictionary entry of a Russian word, the morphological class of the Russian word, the Russian word itself, and the text serial number appear in the first five machine words of the 10-word item. The syntactic data is contained entirely in the last five machine words of the item. The coding format of the information in the last five machine words (word 5 to word 9) for each morphological type and syntactic class of Russian word is described by Foust<sup>17</sup> in another section of this report. Words 5 and 8 contain morphological and syntactic information that remains invariant during the analysis of the Russian word. During the analysis the syntactic role of the word in the sentence is placed into word 9, which, before the analysis, contains the dictionary entry number of the Russian word. Various grammatical characteristics, such as case, number, gender, etc., are, when applicable, stored in words 6 and 7. When the analysis program selects the information appropriate to the particular syntactic role of the Russian word, the remainder of the information is deleted from these two machine words.

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\* Machine words are numbered 0,1,...,9.

\*\* The figures for this section of the report are bound separately and included in a pocket attached to the back cover of the report.

The process of predictive syntactic analysis consists of two cycles, a testing cycle and a predicting cycle.

(1) The Testing Cycle. During the testing cycle the predictions are tested against the information about the arguments or grammatical characteristics of a word that are obtainable from a dictionary. Since the lexical properties of words do not always define a unique argument, a set of alternative arguments must be considered. Thus, "waters" has two alternative arguments: /noun, plural/ and /verb, 3rd person, singular, present tense/. The alternative arguments of a single 10-word item are completely described by machine words 5 to 8. If grammatical information must be stored with a prediction, it is placed in grammar words, which are referred to by the prediction.

From this point of view, the morphological homograph problem in Russian is subsumed under the heading of alternative arguments. It makes no difference with regard to the input whether a word has two or more alternative arguments such as the nominative singular and accusative singular for the Russian noun *что*, or whether there are two or more homographs of a word, such as the pronoun and the noun homographs of the word *том*, which are translated as "that" or "volume," respectively. Although the alternative arguments of *что* are described in a single 10-word item and the alternative arguments of *том* are described in two 10-word items, the program treats the alternative arguments of both words identically.

Whenever an alternative argument fulfills a prediction, an intersection occurs. The preferred argument is the alternative argument of the first intersection in a test sequence. The prediction of the first

intersection of a test sequence is fulfilled; likewise, a word is accepted by the fulfilled prediction. A fulfilled prediction is wiped or removed from the prediction pool.

The syntactic role is the grammatical role of the fulfilled prediction and is stored in word 9. The information contained in the preferred argument in words 5 to 8 and in the syntactic role in word 9 is, collectively, the grammatical unit.

In a test sequence all the alternative arguments of a word are tested against all the predictions in the pool in their respective orders, so that each prediction, in turn, is tested against the set of all alternative arguments. All intersections occurring subsequent to the first intersection are listed in hindsight for future reference, while the grammatical unit is recorded as the temporary analysis for the given word. The other alternative arguments which intersect with subsequent predictions are intersecting arguments, and the alternative roles are listed with them.

An output 10-word item and a hindsight 10-word item are almost identical in appearance; the sole difference is in the presence of two 2-digit columns located to the left of the text serial number in the output item. The first number is the chain number, an error indicator that will be discussed later; the second number states the total number of predictions in the prediction pool before the analysis of the 10-word item.

To indicate boundaries of different sets and subsets of predictions in the pool at a given time, several types of sentinels are placed in the pool. These sentinels are usually found just below the last prediction of a set. Presently, the format of sentinels coincides with the format of

predictions; however, this is a temporary expedient that will probably be abandoned in the near future.

(2) The Predicting Cycle. After the testing cycle has been completed and a grammatical unit for a Russian word has been chosen, the predicting cycle is started. The operations of this cycle update the prediction pool (1) by wiping the fulfilled prediction and other rejected predictions, (2) by modifying predictions already in the pool, and (3) by adding new predictions to the top of the pool as indicated by the grammatical unit of the analyzed word.

The rules for wiping predictions in the pool are based on the sentinels located in the prediction pool as well as on the predictions themselves. Modification of existing predictions and addition of new predictions are based on the word class of a word as well as its syntactic role. The grammatical categories such as person, case, number, etc., of a word play only indirect roles in the predicting process. This information serves to limit the words that can fulfill predictions, where the words fulfilling the predictions are restrained to agree with preceding analyzed words in one or more grammatical category.

In this manner, a noun assigned the syntactic role of subject would cause (1) the subject prediction to be wiped from the pool; (2) the predicate head prediction to be modified, so that only a predicate agreeing with the subject in person, number, and gender can be accepted; and (3) three new predictions, a compound subject, a noun complement, and a modifier, to be entered at the top of the pool. The compound subject is predicted because the syntactic role of the word is analyzed as the subject; the noun

complement, a prediction of a genitive noun phrase, and the modifier, a prediction of a participial phrase, are predicted by every noun regardless of its syntactic role.

Due to the secondary role played by the grammatical categories, an intersection can allow a multiple choice of categories. If a subject prediction is fulfilled by a nominative pronoun that can be either singular or plural, it is not necessary to preselect either alternative. Instead, the ambiguity can be carried along. In the particular example no restriction on number need be made in the predicate head prediction. Likewise, if a noun immediately following a preposition can exist in more than one of the cases that the preposition can govern, there is no need to assume arbitrarily that any one case is the correct one.

A reference to the grammatical unit that initiated a fulfilled prediction is also included in word 9 of the accepted Russian word. The three-digit number located to the left of the syntactic role is identical to the last three digits of the text serial number of the Russian word which initiated the prediction. In this manner, when a sentence is analyzed, not only is a syntactic role assigned to every word, but a linkage to the word initiating the prediction is established. To continue with the same example, if the word following the noun subject is a genitive noun, the text number of the noun subject is attached to the syntactic role of the genitive noun, and the noun complement can then be identified as dependent on the subject.

## B. Prediction Span Indicators

Not all predictions in the pool are of equal importance. Whereas, on the one hand, it would be difficult to justify the analysis of a sentence without an indication of a predicate, on the other hand, a sentence with no subordinate clause would be perfectly acceptable. To provide a relative level of importance among the predictions, a prediction span indicator (PSI) is assigned to every prediction in the pool. The PSI indicates (1) how long the prediction can remain in the pool before it must be wiped, (2) whether or not the prediction must be fulfilled for the analysis to be considered successful, (3) if the prediction is mutually exclusive with adjoining predictions (i.e., only one prediction from a set of mutually exclusive predictions can be fulfilled), and (4) whether or not the prediction should be tested at a given time.

The PSI can take on any value between 00 and 99. Any PSI with the value equal to or greater than 50 is considered inactive and cannot be tested. It is otherwise identical to its active counterpart with a PSI less than 50. Each prediction in a set of mutually exclusive predictions is indicated with a PSI of between 20 and 29 (or, inactively, between 70 and 79). The basic predictions presently used are:

- 00 - the prediction must be fulfilled by the next word in sequence or not at all;
- 01 - the prediction must be fulfilled during the analysis of the sentence;
- 02 - the prediction can be fulfilled more than once and is not to be wiped when fulfilled;
- 03 - the prediction may be fulfilled at any time but need not necessarily be fulfilled.

Only sentinels are listed with 02 PSI; all ordinary predictions belong to the other three basic types.

### C. Infinity and Arbitrary Choice

In any scheme of automatic syntactic analysis a method must exist to handle words which are not predicted. This class of words can be subdivided into two categories: those that should be predicted and those that cannot be predicted.

A number of words and other forms exist that either can never be predicted or can be predicted only occasionally. Examples of such words and forms are adverbs, prepositions, and commas. Adverbs occur both to the left and to the right of the words that they modify. In a left-to-right pass, adverbs are predicted only if they occur to the right of the words they modify. An adverb preceding an adjective or a verb usually gives no clue about the following structure. Thus, there is no information to be gained by having the adverb fulfill a prediction in the pool. Likewise, it is a difficult matter at best to link a prepositional phrase to the word it modifies even if the phrase follows immediately after the word. A comma is even worse in this respect since its position in a sentence is unpredictable. However, it is true that if two commas are used to isolate some structure in a sentence, the second of the commas may often be predicted by the first.

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When a word that cannot be predicted is encountered during a testing cycle, it must nevertheless be accepted in some sense, subject to later revision. Since there is no prediction in the pool, no finite number can be assigned the unpredicted word to indicate the linkage. Rather, an "infinite number" is assigned to the unpredicted word, and in the terminology of predictive syntactic analysis, the word is "accepted by infinity." (The ordinary prediction is considered a finite prediction.)

The necessity for adopting the concept of a word accepted by infinity is an admission that predictive analysis cannot be completed on a single pass. The hoped-for result from a single pass is not necessarily a complete and comprehensive analysis, but rather a limited and accurate analysis without error, upon which the desired comprehensive analysis can be built.

Situations arise when several intersections with the alternative arguments of a word both of an infinite prediction and of a finite prediction take place in the analysis of a single word. Since the infinite prediction is a weak prediction, really a statement that the analysis scheme is incomplete but that the analysis should not indicate an error, it is desirable that the stronger finite prediction be chosen whenever possible. This is accomplished by means of an override routine, whereby the grammatical unit of the finite intersection is substituted for the grammatical unit of the infinite intersection in the event the infinite intersection occurred first. In the present program an override takes place only rarely. It occurs usually when a short-form adjective is homographic with an adverb (see Part 5A).

The infinity classification is distinct from the arbitrary choice classification, the only other nongrammatically oriented classification in

predictive analysis. A word is an arbitrary choice when it cannot fulfill any prediction in the pool and does not belong to a class than can occur more or less randomly. By definition, the arbitrary choice classification excludes all words that can be accepted by infinity. A word such as a noun that does not fulfill any prediction during a testing cycle and cannot be predicted by infinity is automatically assigned to arbitrary choice.

One of the requirements for the identification and analysis of a complete sentence is that every word in the sentence fulfill a prediction. Thus a completely analyzed sentence can contain words accepted by infinity, but it cannot contain any words which have been labeled "arbitrary choice." The chain number, briefly mentioned previously, serves to indicate the occurrence of an arbitrary choice. The chain number is set to zero prior to the analysis of a new sentence. Every time an arbitrary choice is found, the chain number is incremented.

#### D. The Program Format

Predictive syntactic analysis has been conceived as a program consisting of an executive routine that performs the various bookkeeping duties and controls two sets of subroutines. The first set, the testers, correspond to the set of predictions. The second set, the predictors, correspond to the set of preferred arguments and syntactic roles that make new predictions or modify predictions already in the pool.

Although the sentinels are considered as part of the set of predictions, and consequently as part of the set of testers in the program, it is more logical to consider them as a third distinct set of subroutines.

The detailed logical description of the three sets of subroutines is given in Appendix A. The remainder of this report is devoted to a discussion of the operation and interaction of the various members of these sets. In addition to reporting on the present system, several logical errors in the system are pointed out and occasional suggestions to improve the performance of the program are included. The stress is on the improvement of the identification of the structures already being identified as opposed to the recognition of other new structures.

### 3. Elementary Phrase Structures

In predictive syntactic analysis the identification of the syntactic role of individual words and the identification of the phrase and clause structure within a sentence are carried out simultaneously. To explain the detailed operation of the process, it is convenient to start with the deepest nested phrase structures, which are the simplest, and to consider the other more complex structures later.

Consider now the three most elementary phrases, the noun phrase, the prepositional phrase, and the numeral phrase. Only the predictions essential to the analysis of these phrases will be mentioned here in an effort to avoid unnecessary complication. For a complete picture of the operation of the predictive analysis program, the steps should be worked out in detail using the rules of Appendix A.

#### A. The Basic Phrase and the End-wipe Sentinel

The most elementary phrase structure in Russian, referred to as the basic phrase, is the noun immediately preceded by none, one, or more than

one adjective, with all the words in agreement in case, number, and gender. Since predictive syntactic analysis proceeds from left to right, the syntactic role of the basic phrase is assigned to the leftmost word of the basic phrase. If the leftmost word is a noun, then the basic phrase consists of only one word; however, if it is an adjective, then the rest of the basic phrase must be identified before the program can return to the analysis of any other higher-level structure in the sentence.

The basic phrase can be assigned any of a number of syntactic roles, such as subject, object, or preposition complement, which are represented by appropriate predictions in the pool. When such a prediction is placed in the pool no indication is given of what the structure of the basic phrase will be. Therefore, both an adjective and a noun must be capable of fulfilling the prediction. For the same reason a participle, a numeral, and a pronoun must also fulfill the prediction. (Discussion of these syntactic word classes will be postponed for several pages.)

If the first word of a basic phrase is an adjective, a master prediction with a 01 PSI is made. Thus the analysis of the sentence can be successful only if another adjective or a noun agreeing in case, number, and gender with the original adjective follows. If the word that follows is a second adjective, a second master prediction is made, and this process continues until a noun fulfills the master prediction.

To ensure that either an error is indicated or the master prediction is fulfilled before other less deeply nested structures are analyzed, an end-wipe sentinel is placed in the prediction pool immediately below the master prediction. If the end-wipe sentinel is reached during the testing

cycle before any intersection between the alternative arguments of the current word being tested and the predictions located above the end wipe has been recorded, the end wipe causes itself and all the predictions above it to be wiped from the pool.

Before wiping predictions from the pool, the end-wipe sentinel subroutine must check to determine whether any of the alternative arguments of the current word can be accepted by infinity. If so, the wiping process does not take place.

This wiping operation seems quite arbitrary; however, sound theoretical principles have suggested this approach. A model of the Russian language for predictive syntactic analysis has been discussed previously.<sup>11,12,2</sup> The model is based on the parenthetical and parenthesis-free notation of mathematical expressions. It has been shown that if an expression is well formed, a syntactic analysis of the expression will leave no trace in the prediction pool. That is, if the prediction pool consists of a certain set of predictions before the start of the analysis of the well-formed expression, then the prediction pool will consist of the same set of predictions after the analysis of the expression. On the assumption that the Russian language is well formed in the same sense, the same rule can be applied to the syntactic analysis of the natural language. Of course, in a Russian analysis, no explicit indication of the end of a well-formed expression exists, so that it is necessary to take the opposite stand: if the first intersection in the test of a word occurs with a prediction located below a set of predictions in the pool belonging to a deeper nested structure, the deeper nested structure is assumed to be complete. On the hypothesis

that the expression is well formed, no trace of the analysis of the expression should remain in the pool and the residue of predictions generated by the analysis of the expression should be wiped from the prediction pool. A check on the inaccuracy of the hypothesis is the OI PSI prediction. If one or more are wiped from the pool in such an operation, it signifies that the analysis did not result in a well-formed expression and an error exists.

The phrase *подобные антенные системы* (Figure 2)\* is a typical subject basic phrase. The adjective *подобные* fulfills the subject prediction in the pool. It also fulfills the left object prediction which is farther down in the pool. The second intersection is duly recorded on hindsight. As an adjective, *подобные* predicts a master that must be nominative, plural, and can have any gender. An end-wipe sentinel is placed under the master prediction. The following word, the adjective *антенные*, fulfills the master prediction and is accepted as the master of *подобные*. It too predicts a master that must be nominative, plural, and any gender. This second master prediction is fulfilled by the noun *системы*. The analysis program determines that the basic phrase has been completely analyzed when the following word, the verb *описываются*, is analyzed. The end-wipe sentinels, inserted into the prediction pool when the master predictions were made, are wiped without any indication of error.

The second basic phrase, the single word *этом* (Figure 3), illustrates the use of the end-wipe sentinel. When *этом* is analyzed, the topmost prediction in the pool is a preposition complement, a prediction for a basic

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\* Figure 2 and all those that follow contain text material both before and after analysis and are bound separately with this report for ease of reference. Information collected in hindsight during analysis is included in these figures.

phrase governed by a preposition. Этом has two alternative arguments, one adjectival and one nominal. The first intersection is with the adjectival alternative argument, so that этом is selected as an adjective and the other intersection is noted in hindsight. The master prediction generated by the grammatical unit of этом is for a locative, singular, and masculine or neuter basic phrase. Once more, an end-wipe sentinel is placed below the master prediction. The noun расположение cannot fulfill the master prediction; neither can it be accepted by infinity. The end-wipe sentinel therefore wipes both itself and the master prediction from the pool. Since the master prediction has a 01 PSI, the wipe is recorded in hindsight as an indication of an error. In this particular example the error is the obvious incorrect choice of intersections, and it can be corrected by selecting the nominal alternative argument of этом as the preposition complement.

The phrase при этом might be considered an idiom. To reduce the large number of idiomatic expressions that must be recognized in Russian, it is convenient to consider expressions idiomatic only if their syntactic or semantic meaning cannot be determined by an ordinary analysis. Since the grammatical usage of при этом can be obtained from ordinary syntactic analysis techniques, the prepositional phrase does not qualify, in this sense, as a syntactic idiom.

The third example, среднюю за много периодов амплитуду (Figure 4) illustrates the need for the infinity test before the end wipe performs its role. The words of the basic phrase среднюю амплитуду are not contiguous; the adjective is modified by the prepositional phrase за много периодов. The preposition is accepted by infinity and the rest of the prepositional phrase is analyzed before the basic phrase can be identified.

From the above examples the two functions of the end-wipe sentinel are evident. The sentinel provides a mechanism for wiping predictions that can no longer be fulfilled. It also provides a latent mechanism for the quick detection of errors by wiping predictions that must be fulfilled. The second function cannot be really utilized until errors are corrected during the analysis pass.

Occasionally an author writes a basic phrase with the noun preceding the adjective and with no intervening commas. This practice was quite common in the 19th century as evinced by text OUU where this structure was encountered in almost every sentence. In modern texts this structure is very rare; only one instance was discovered among the other analyzed texts: сопротивление это должно быть... (Figure 5). Perhaps the author was trying to emphasize his argument in this sentence. Due to the extreme rarity of such structures in the modern language, no provision for handling them has been made in the analysis program to date. The error in the analysis of это is propagated when должно is not selected as the predicate (see Part 5). A second independent error is caused by the selection of значительно as a verb complement rather than as an adverb (see Part 4E).

#### B. The Noun Phrase and the Pronoun Phrase

Whereas every adjective predicts a master that must be fulfilled, every noun predicts a noun complement that need not be fulfilled, but if it is to be fulfilled at all, it must be fulfilled at once. The noun complement prediction with a OO PSI can be fulfilled by a genitive noun phrase. Of course, the noun of a noun complement basic phrase also predicts a noun

complement, so that this type of structure may repeat several times. The initial basic phrase, which fulfills some prediction other than a noun complement, followed by any and all noun complement basic phrases together constitute a noun phrase. Any other deeper nested structures that interrupt the analysis of these basic phrases, such as the prepositional phrase in Figure 4, are part of the noun phrase.

A typical example of a noun phrase consisting of two basic phrases is печатные схемы сантиметрового диапазона (Figure 6). After печатные схемы is identified as the subject basic phrase, the noun схемы predicts the noun complement. The genitive singular alternative argument of the adjective сантиметрового fulfills the noun complement prediction and makes the subsequent prediction of a genitive singular master. The noun phrase is completely analyzed by the recognition of the noun диапазона as the master of сантиметрового. Although this noun also makes a noun complement prediction, the next item in the sentence is a comma that cannot fulfill the prediction.

Pronouns, with the exception of relative pronouns, are not treated as separate entities in the predictive analysis program. In the testing phase of the program, a pronoun can be accepted in place of an adjective or a noun. If the pronoun is coded adjectivally, the predictions of an adjective are made; if it is coded nominally, the predictions of a noun are made. A nominal pronoun cannot be modified by preceding adjectives and it cannot be followed by a noun complement. The treatment of a nominal pronoun as a noun is presently based on the hypothesis that no harm is done in making the same predictions since the nominal pronoun should not be found preceded by modifying adjectives or followed by a noun complement, and the wrong

prediction should not be fulfilled. Unfortunately, this hypothesis is not valid and separate categories are necessary. Она in the sentence она ничего не сказала (Figure 7) cannot have a noun complement under any circumstances. Ничего is really the object of the negated verb (see Part 4).

### C. Adjective-noun Homography

Adjective-noun homography in Russian is not uncommon and an appropriate method for handling the ambiguity is essential since every prediction that can be fulfilled by a noun can also be fulfilled by an adjective. The pronoun этом (Figure 3) exhibited this ambiguity. The homograph многие in the basic phrase многие физические явления (Figure 8) is more illuminating. As used in the example многие is an adjective. It is used as a noun in the counterpart example многие русских авторов.

The choice of homographs, which is determined by their ordering, can be based either on the statistical frequency of expectation or on fail-safe error indications in the subsequent analysis. The latter basis is obviously preferable for the ultimate achievement of an error-free analysis, and adjective-noun homographs are appropriately ordered with the adjective always preceding the noun.

An adjective predicts a master with a 01 PSI; that is, the master must occur. To ensure that the master occurs immediately after the adjective, with certain exceptions already mentioned, an end-wipe sentinel is placed underneath it in the pool. The example of Figure 3 has indicated that the lack of a master results in a quick error indication in the form of a wiped prediction recorded in hindsight. In contrast, the noun makes only the weak

prediction of a noun complement with a OO PSI. If no noun complement is found, the prediction is wiped and no record is kept that the prediction ever occurred. The net result is that if the nominal choice is in error, no explicit indication of the error is left.

Consider the basic phrase in Figure 8 as an example. By selecting the adjective before the noun, this phrase is analyzed correctly. But now assume that the phrase is the alternative многие русских авторов. The second word, русских, cannot fulfill the master prediction of многие since there is no agreement in case and number. The master prediction is therefore wiped by the following end-wipe sentinel. The error is detected and can be corrected since the only alternative action is to consider многие as a noun and predict a noun complement.

Now consider the counterexample where the noun is selected before the adjective. This time the alternative phrase is analyzed correctly, whereas многие физические явления is the problem. If многие is selected as a noun, a noun complement prediction is placed at the top of the pool. физические cannot fulfill the noun complement prediction, the prediction is wiped, and the analysis proceeds to test the other predictions in the pool with no indication of error. If there is another prediction located farther down in the pool that can be fulfilled by a nominative or accusative adjective, the program will assume that the syntax of the sentence is still being correctly analyzed. Only if there is no other intersection will физические be labeled arbitrary choice and will an error be indicated. Note that in selecting a noun first the error indication is not assured but is up to chance. This is a highly undesirable predicament!

## D. The Prepositional Phrase

The structure of a prepositional phrase is almost identical with that of a noun phrase, the only difference being that the leading basic phrase in a prepositional phrase is preceded by a preposition. In discussing the basic phrase or noun phrase, the analysis of the first word of the phrase was not considered but was postponed temporarily. Similarly, the discussion of the intersection of the preposition will be postponed and only the analysis of the phrase is considered.

Every preposition predicts that a preposition complement, a basic phrase in a case governed by the preposition, must follow immediately after the preposition. The Ol PSI of the preposition complement and the end-wipe sentinel placed immediately below the prediction present a situation identical to the master prediction already discussed.

Every preposition can govern one or more cases. This information is stored in word 6 of the dictionary entry of the preposition. In the first example, the preposition при of the phrase при различных исследованиях (Figure 9) can govern only the locative case. This is represented by the two P's in word 6, one each for the singular and the plural. In this example one of the three alternative arguments for the following adjective различных intersects with the preposition complement prediction. The identification of the following locative plural noun исследования completes the analysis of the phrase.

Multiple intersections resulting in case and number ambiguities are represented by the examples для ее описания (Figure 10) and в любой предыдущий момент (Figure 11). In the former example three of the alternative

arguments of ee intersect with the preposition complement prediction: /pronoun, adjectival, genitive, singular/, /pronoun, adjectival, genitive, plural/, and /pronoun, nominal, genitive, singular/. The first two can be selected simultaneously since the syntactic word class is the same, while the third can be entered only in hindsight. The subsequent master prediction can be fulfilled by a genitive singular or genitive plural noun. Here описание is genitive singular. In the latter example case intersections of the preposition complement are ambiguous, both the accusative singular and locative singular alternative arguments of любой intersecting with the prediction made by в. The second adjective предыдущий agrees with only one of the possible cases, resolving the ambiguity.

In both previous examples the ambiguity is finally resolved by a third word of the prepositional phrase. Such ambiguities are not always resolved. The analysis of the prepositional phrase в области (Figure 12) gives two syntactic possibilities, locative singular or accusative plural. No subsequent word in the phrase exists to resolve the ambiguity. Unless the reader semantically analyzes the context of в области, he cannot determine whether the author meant "in the region" or "in the regions." The resolution of such ambiguities in the predictive analysis program is dependent on the prediction of the preposition and its linkage to the word it modifies.

#### 2. The Numeral Phrase

All the cardinal numerals and other words expressing numeric concepts are treated in a special manner because they do not follow the same rules as ordinary adjectives and nouns. In speaking of a numeral phrase, only the set of words that are treated in the special manner is considered.

The ordinal numerals are not included in this set but are coded as ordinary adjectives. A complete list of the words that fall into the set of numerals has been given by Magassy.<sup>18</sup>

Numerals fulfill the same predictions as ordinary nouns and adjectives. In addition, if a numeral is nominally coded, normal nominal predictions can be made. However, if a numeral is adjectivally coded, which is the usual situation, a new type of master prediction, the numeral master, is made since the case and number of the numeral master do not always agree with the case and number of the numeral. Numeral masters are marked with an "N" instead of the normal "M" in word 9 to distinguish them from ordinary masters.

Three types of "agreement," depending on numeral type, occur between numerals and numeral masters: (1) the case and number of the numeral master agree with the case and number of the numeral; (2) the case and number of the numeral master do not agree with the case and number of the numeral; and (3) the case and number of the numeral master do not agree with the case and number of the numeral, and, in addition, the case and number of the adjectival numeral master do not agree with the case and number of a nominal numeral master. In the first two cases, if the numeral master is an adjective, the noun that completes the phrase agrees with the adjective as in an ordinary basic phrase.

Due to the above-mentioned special properties, numerals are coded in a somewhat different manner from adjectives or nouns.<sup>18</sup> The case and number combinations that the numeral can govern are entered in word 8. If a numeral is of the first two types then the information in word 8 is coded

in the normal "NGACIPNGACIP" notation; if a numeral is of the third type, a special "RZV" code is used.

The numeral одной in the phrase молекул одной жидкости (Figure 13) is an example of the first type. The hindsight for most numerals is unusually large since most numerals have adjectival and nominal homographs and therefore account for a large number of intersections. The alternative arguments of одной intersect eight times with predictions in the pool; the first intersection is between the /numeral, adjectival, genitive, singular/ alternative argument and the noun complement prediction made by молекул.

When a numeral is accepted as an adjective, the numeral predictor subroutine examines whether or not the numeral can have a normal agreement with the preferred argument of its numeral master. This test is accomplished in two stages. First the program checks for the "RZV" notation. If this is not found, the program looks for an intersection between the preferred argument of the numeral and the information stored in word 8. An intersection indicates that a normal numeral master should be predicted and the numeral is of the first type. No intersection would indicate the second type. In the illustrated example since the information in word 6 is identical to the information in word 8, the numeral has to be of the first type. The numeral is accepted as a genitive singular noun complement and жидкости is then accepted as the genitive singular master of the noun complement.

A second example of a numeral of the first type is illustrated by the numeral двух in the phrase в двух статьях сборника (Figure 14). Here are four multiple intersections between adjectival alternative arguments of двух and the preposition complement prediction of в. All four intersections are recorded and checked against the agreement code in word 8.

Only two intersections, accusative plural and locative plural, result from this test, so that the ensuing numeral master can be fulfilled only by an accusative or locative plural numeral master. The following noun *статей* turns out to be locative plural and the numeral master prediction is fulfilled.

When the numeral predictor subroutine examines an analyzed numeral and no intersection exists between the preferred argument of the analyzed numeral and the agreement code from the dictionary entry in word 8, a numeral master is predicted with whatever case and number combinations that are listed in the agreement code. The information in the preferred argument of the analyzed numeral is completely disregarded. If there is no intersection whatsoever with the preferred argument and the agreement code, then the numeral is of the second type. The numeral *пять* in the phrase *пять остроумных математиков* (Figure 15)\* illustrates this type. *Пять* is accepted as the subject, either singular or plural, of the sentence. The agreement code states that only a genitive plural master can follow the numeral. This genitive plural numeral master prediction is then fulfilled by the adjective *остроумных*.

The numeral phrase is still incomplete since a noun is needed to terminate the phrase. The adjective *остроумных* predicts a second numeral master agreeing in case and number. Although the gender is not tested, it should agree also. This test is analogous to the ordinary basic phrase containing more than one adjective, where each adjective predicts a new

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\* The verb *пришли* in Figure 15 and the verb *пришел* in Figure 20 are listed in the dictionary at this time only in the reflexive form.

master until finally a noun is analyzed. In this example the phrase is completely analyzed after the noun математиков is accepted as the second numeral master of the subject.

The numerals of the third type differ from the other types in that their numeral masters do not obey the simple rules of agreement. Whereas nominal numeral masters of the third type of numeral always appear in the genitive singular, adjectival numeral masters are either nominative plural or genitive plural. This unusual type of agreement is indicated by the coding "OR0000ZV0000" in word 8 of the dictionary item. The single numeral master prediction made by such numerals is organized to accept either a genitive singular noun or a nominative plural or genitive plural adjective. If a noun fulfills the prediction, then the numeral phrase is completely analyzed. However, if an adjective fulfills the prediction, the adjective generates a new numeral master prediction that will accept either the genitive singular noun or another adjective in the same case and number as the adjective making the prediction.

Three phrases illustrate the various combinations that are analyzed by the predictive analysis program. The noun жидкости is analyzed as the genitive singular numeral master following the numeral in the phrase две жидкости (Figure 16). The syntactic analyses of a genitive singular noun numeral master following a nominative plural adjective numeral master and a genitive plural adjective numeral master are illustrated by the phrases четыре черные книги (Figure 17) and четыре черных книги (Figure 18), respectively.

## F. Numeral Chaining

Another aspect of the numeral phrase poses special problems for automatic syntactic analysis. When a number greater than twenty is written out, all the numerals but the last in the sequence are written in the nominative case, regardless of the syntactic usage of the set of words. Only the last word of the sequence is inflected in the normal manner. In the phrase *при сто копек двух авторax*, *сто* and *копек* are written in the nominative case while *двух* is in the expected locative case.

The chain numeral prediction has been adopted to handle this problem. As the following examples indicate, the present rules for the chain numeral are not completely effective. Every numeral predicts a numeral master and a chain numeral mutually exclusively (with a PSI between 20 and 29). A chain numeral prediction can be fulfilled by any numeral that agrees with the chain numeral making the prediction in case, number, and gender. A chain numeral can also be accepted by infinity although, in this case, the numeral must have a nominative alternative argument. A chain numeral is assigned a 23 PSI and the numeral master is assigned a 21 PSI. Thus if neither of the mutually exclusive predictions is fulfilled, the single prediction with the 21 PSI is recorded on hindsight when the set of predictions is wiped. The recording of a single prediction is sufficient to indicate the error. If one of the predictions with a 23 PSI is fulfilled, then the prediction with a 21 PSI is wiped, unrecorded on hindsight.

A chain numeral can occur in one of two ways: the chain numeral is adjoined to a second cardinal numeral or the chain numeral is adjoined to an ordinal, a word that is considered an ordinary adjective rather than a numeral.

The analysis of a chain numeral adjoined to other cardinal numerals has been completed without error in all the instances in the analyzed texts. For example, *двести* in the phrase *двести тридцать два человека* (Figure 19)\* fulfills the subject prediction and then predicts mutually exclusively a nominative chain numeral and a genitive plural numeral master. *Тридцать* fulfills the chain numeral prediction and itself makes the same two predictions. *Два* fulfills the chain numeral prediction made by *тридцать* and, in turn, makes another chain numeral prediction and an "RZV" numeral master prediction. The latter prediction is fulfilled by the genitive singular noun *человека*. Such a numeral phrase is indistinguishable from an ordinary numeral phrase since the same "N" mark, which indicates numeral masters, erroneously indicates a chain numeral.

A correct analysis cannot be reached if a chain numeral phrase terminates in an ordinal numeral as in *сто сорок второй человек* (Figure 20). The ordinal would have to be accepted as a chain numeral for the analysis to succeed. However, ordinals are classified as ordinary adjectives and thus cannot fulfill the chain numeral prediction. This raises the question of whether ordinal numerals should not be considered as numerals that belong to regular inflected adjectival classes. The governmental properties of ordinal numerals are different from ordinary adjectives, as illustrated in Figure 20.

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\* A "bug" in the dictionary lookup program does not recognize any form of *человек* except the canonical form.

#### 4. Government and Objects

The two syntactic relationships "agreement" and "government" can be distinguished with reference to the question of matching. If the grammatical characteristics (case, number, and gender) of an adjective and noun match, the relationship is agreement. Otherwise, the relationship is considered government. Further, the two concepts can be distinguished since wherever agreement is mentioned, either case and number or case, number, and gender are tested; wherever government is mentioned, case alone is tested. This latter division seems more definitive and is used here. Thus the numeral master agrees with the numeral and the numeral does not govern the numeral master. The number of the numeral master is specified, even though it may be plural for an adjectival numeral master and singular for a nominal numeral master.

The phrase structures identified by agreement have been considered in Part 3 and the structures identified by government are discussed in this part. The prediction that is usually generated to fulfill a government relationship is the object, although several others exist. Among these, the preposition complement and the noun complement have already been mentioned (Part 3).

##### A. The Verb Phrase

The third simple deeply nested phrase structure recognized by the predictive syntactic analysis program is the verb phrase. It is somewhat more complex than the noun phrase or prepositional phrase since it may include one or both of the other two types. Both noun phrases and

prepositional phrases have a similar structure, adjectives and a noun following an initial adjective or preposition, respectively. A verb phrase consists of a verb that may be followed by a prepositional phrase, one or more objects (noun phrases), a verb master (an infinitive verb), or any combination of the three. The verb phrase may also consist of a verb followed by a clause as the object, but this structure is not identified in the present version of the program. In all three deeply nested phrase structures other words such as adverbs that modify individual words in the phrase are also found (see Figure 22).

The verb master is predicted by every verb just as a noun complement is predicted by every noun. The object and preposition object are predicted only if information is present in the dictionary item of the verb to indicate that they are expected to occur. Examples of each of the three types of verb phrases are given in the two phrases сводится к изготовлению (Figure 21) and требуют для своего изучения умения вычислять вероятности (Figure 22).

A preposition object prediction of the preposition к governing the dative case is made by the verb сводится. The "D9" mark in word 6 is the indicator of this prediction. A verb master and an instrumental agent prediction (Part 4C) are placed underneath the preposition object prediction in the pool. The instrumental agent is predicted because the verb is reflexive. The preposition к fulfills the preposition object prediction.

In the second example (Figure 22), the verb требуют predicts a preposition object (F4), a genitive object (P5), and a verb master. The preposition object predicted by требуют is or governing the genitive case. The preposition для which follows требуют cannot fulfill the preposition

object prediction and, instead, is accepted by infinity. The entire prepositional phrase для своего изучения умения is then analyzed. The infinitive verb вычислять then fulfills the verb master prediction of требуют and, in turn, predicts an accusative object (P7).

The present program does not make the object prediction of a verb mutually exclusive with the verb master prediction. Thus an object prediction remains in the pool if the verb master is fulfilled. In this example the noun вероятности fulfills both the accusative object prediction of вычислять and the genitive object prediction of требуют. The correct analysis is made because the accusative object was predicted after the genitive object and therefore is higher up in the prediction pool.

The prepositional phrase для своего изучения умения is an example of an unpredicted structure that modifies a word in a verb phrase and that is part of the verb phrase itself.

The preposition object prediction can serve another purpose in addition to linking the prepositional phrase to a verb or participle. Since the preposition object prediction states not only the preposition predicted but also the case governed by the preposition, the preposition complement prediction of the preposition is less ambiguous. In the example сталкивается с другими (Figure 23) the preposition complement predicted by с is limited by the "J1" code in the 10-word item of the preceding verb only to an instrumental basic phrase although usually the prediction can be fulfilled by an instrumental, genitive, or accusative basic phrase. So far, no example has been found where this process resolved an actual ambiguity.

The preposition object and object predictions are made based on grammatical information in Die Russischen Verben<sup>19</sup> which was coded in the

dictionary entries. Both a first government and a second government are listed in the source book although this distinction has been kept only with the object codes, a "P" code for the first government and an "L" code for the second government. At the time the coding was transcribed, no syntactic analysis program existed with which to verify the accuracy and the completeness of the coding. A comprehensive verification still has not been made, although it was considered by Plath some time ago.<sup>20</sup> The single overriding problem in the coding is with the government of an accusative object. Sometimes, when a verb is obviously transitive, the accusative government is not mentioned in the reference book used. Thus the absence of a government code in word 6 can indicate either that the verb cannot govern an object or that the verb is an ordinary transitive verb. For an automatic syntactic analysis technique, this distinction must be made explicitly.

The preposition object coding is not adequate at this time. The preposition object prediction was recently added to the analysis program on a limited scale. The prediction with a 00 PSI is made only by verbs. Thus, unless the preposition immediately follows the verb, the prediction is lost. In this limited manner only 12 of 614 prepositions in the analyzed texts were selected as preposition objects. A study of the texts has indicated that a total of 33 of the prepositions could be selected if the PSI were changed from 00 to 03 and participles also predicted preposition objects. This still seems to be too small a number and suggests that the coding information taken from Die Russischen Verben is insufficient for present purposes.

The two-character alphanumeric coding format for verbal government has been proven inefficient. It is neither suitable for automatic interpretation by a computer program nor sufficiently mnemonic to assist the coder or reader of program output material. The latter criticism is levied particularly at the preposition object codes.

Not all the government object predictions are made in the current predictive analysis program. Several analyses with missing object predictions as in *служащие опорой всем знаниям* (Figure 24), were found. In this example the "L8" in word 8 of the dictionary entry of *служащие* is not identified and an instrumental object prediction that would be fulfilled by *опорой* is not made.

The relative merits of testing an adjective before or after a noun when an adjective-noun homograph appears have been mentioned previously (Part 3C). The same problem appears in testing verb-noun and verb-adjective homographs against a given prediction. In the verb-noun case the verb alternative argument should be tested before the noun alternative argument since a verb makes predictions with 01 PSI whereas a noun does not. The verb-adjective homograph is typified by *встречаем* (Figure 25) where a rare and dubious short-form adjective forms a homograph with a normal finite verb form. Here too the verb alternative argument should be tested first, but on the grounds that the other possibility is so rare if existent at all as to be negligible. This example actually provides a third homographic form since *встречаем* can also be used participially.

#### B. Other Object Predictors

A participle is a form derived from a verb and carries with it the government characteristics of the verb. The preposition object, verb master, and object predictions that are made by verbs can also be made by participles. The coding information that was entered into the dictionary items of the verbs was also entered into the participle items. At this time the coding is not completely utilized and a preposition object is not predicted by participles. Studies indicate that with the present coding only 12 of the 614 prepositions would fulfill this prediction even if expanded to a 03 PSI. The participle followed by an object and followed by a verb master are illustrated by определяющих искомое (Figure 26) and позволяющие выделить (Figure 27), respectively.

An unnecessary programming difficulty has been caused by the government coding. In a participial 10-word item this coding is not located in the same place as the equivalent coding in a verbal 10-word item. The reason is historical, since participles were assigned to the adjectival morphological class and so had different information allocated to the spaces assigned to verbal government coding. In the future this should be taken into account. The verb and adjective morphological formats should be correlated and uniform government coding should be given verbs and participles.

Just as verbs and participles commonly govern objects and verb masters, so certain normal adjectives and nouns govern objects and verb masters. (A new name for a verb infinitive governed by a noun, adjective, or adverb is needed.) The nouns that behave in this manner usually have

originated from verbal forms. Such a noun is попытка in the phrase попытка осуществить мысль (Figure 28). The "P9" code indicating verb master government is in word 8.

The phrase of Figure 2, подобные антенные системы, contained an adjective, подобные, that was marked to predict a dative object ("P2"). If the object had occurred, it would have had to precede the next word of the basic phrase interrupting the analysis of the basic phrase. Such a dative is illustrated in назвать выделенный нами класс (Figure 29). In this phrase the participle выделенный is used adjectivally as an object and predicts an agent (see Part 4C) prior to predicting a master. The pronoun нами fulfills the agent prediction before the noun класс fulfills the adjectival master prediction.

The objects of an adjective or of a participle used adjectivally must precede the master. Therefore, whenever an adjective or participle used adjectivally predicts objects, the predictions are placed at the top of the pool. An end-wipe sentinel follows. Only then are the master prediction and a second end-wipe sentinel placed in the pool. In this manner the object predictions are fulfilled before the master prediction in the event of several intersections, and if the object predictions are not fulfilled the end wipe ensures that no trace of the predictions remains in the pool. Once the master is fulfilled, the objects of the adjective cannot occur again.

The object-master ordering in the prediction pool is worthy of further consideration. Although, on the one hand, the object must be placed first since it must be fulfilled first, on the other hand, if the alternative

arguments of a word fulfill both an object and the master prediction, the correct intersection is almost always the master. Yet, by this order in the pool, the object is identified and the master placed in hindsight. Two such intersections occur with the alternative arguments of области and the dative object prediction, and the locative, singular, and feminine master prediction of заданной in the phrase в заданной области пространства (Figure 30)\*. For such an occurrence, an override procedure has been established whereby the master intersection is chosen. Although this results in a correct analysis as the example illustrates, it is an ad-hoc procedure in the predictive analysis program. No harm results if the object intersection is chosen because the master prediction has a 01 PSI, and a wiped 01 PSI prediction is a clear error indication. Any procedure that is essential to the syntactic analysis of Russian will be added to the program. However, in an effort to provide a simple and elegant analysis technique, nonessential procedures such as the master-object override should be omitted.

### C. Agents

The agent prediction, made concurrently with object predictions, may be fulfilled only by a basic phrase in the instrumental case. An agent noun phrase indicates the means or agent by which the action expressed by a verb, participle, or verbal noun is accomplished.

\* A "bug" in the experimental program appears in this and several other following illustrations. Some agent predictions are erroneously being predicted with 01 PSI. Thus, if the prediction is wiped, a record appears on hindsight. All agent predictions should be made with 03 PSI.

Coding to distinguish agent government from object government does not exist in the dictionary items, so it is necessary to interpret certain instrumental object codes as agent codes. A general set of rules has been adopted to detect potential agent predictions fairly accurately. Verbs that are reflexive and would normally (i.e., when nonreflexive) take an accusative object, participles which are passive or reflexive and would normally take an accusative object, and verbal nouns (which belong to morphological class N10) which are marked to take an instrumental object are all marked by a program\* just prior to the syntactic analysis program so that an agent can then be predicted. An "R4" is placed in the appropriate place in the 10-word item as an identifying mark.

Three examples serve to indicate the three situations when agents are expected to occur. Облегчается снижением (Figure 31) is an example of an agent of a verb. The following two phrases, заполненных диэлектриком (Figure 32) and заполнение волновода диэлектриком (Figure 33), are examples of an agent governed by a participle and governed by a verbal noun, respectively.

Although the analysis of agents usually works quite well, errors appear on rare occasions. One error is represented by становится практически однородной (Figure 34), where an agent is predicted because the present program does not distinguish the copulative verbs like становится which take an instrumental object but not an agent. The only exception is the copulative verb быть (see Part 4D), the forms of which are distinctly marked and are recognized by the program. Another error which appears in the phrase

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\* This program is described in detail by Isenberg.<sup>7</sup>

называемого командой (Figure 35) is due to a legitimate double intersection. The participle называемого takes both an instrumental object and an agent as indicated by the "P4" and "R4" in word 8. The object and the agent of such participles can often be distinguished because the agent would be expected to be animate. The present tests do not provide for such sophisticated details.

In passive constructions an agent represents the logical subject of the action, and in such cases would appear as the formal subject if the construction were transformed into an active one. However, it is also possible to have agents (of means) in active constructions such as in он режет хлеб ножом. The relation of verb to agent and verb to object are quite different with appropriate differences in translation.

#### D. The Verb Быть

The various forms of the verb быть have been assigned to a unique class to facilitate the identification of verb phrases containing a form of быть. Every form of быть predicts a verb master as does any other verb. In addition, быть can govern a verb complement, namely a short-form adjective, and either a nominative or instrumental object. The three predictions of a verb master, object, and verb complement are made mutually exclusively and the object prediction has a 21 PSI. Examples of each type of verb phrase containing a form of быть are provided by будет находиться (Figure 36), было положено (Figure 37), есть два доклада (Figure 38), and быть студентом (Figure 39). Находиться is the verb master, положено is the verb complement, два доклада is the nominative object basic phrase, and студентом is the instrumental object.

In Russian, as in English with the verb "to be," быть can be followed by a predicate adjective, that is, an ordinary long-form adjective not followed by a noun. This occurrence is not taken into account at this time and the master prediction made by such an adjective is marked in hindsight when it is wiped, as in the phrase может быть очень плохим (Figure 40). If an adjective fulfills an object prediction that was generated by a form of быть, the master prediction made by the adjective should be given a 03 PSI.

#### E. Adverbs and Negated Verbs

Adverbial forms are very difficult to predict since there are no grammatical characteristics such as person, number, and gender that can be used to help in the analysis. Also, an adverb usually precedes the word modified and, of course, presents a situation that is difficult to handle in the left-to-right predictive syntactic analysis program. Because of these problems adverbs are currently accepted by infinity whenever they occur.

Adverbial forms are often homographic with conjunctions, prepositions, and short-form adjectives. Since short-form adjectives can be accepted only by a finite prediction, they will always take precedence over the infinite adverb intersection by means of the override. Prepositions, however, are usually accepted by infinity and thus with adverb-preposition homographs there is a problem of choosing which intersection to make first since both intersections occur with the same prediction. The same argument is used here as with the adjective-noun homograph and the noun-verb homograph; the preposition intersection should always precede the adverb intersection. The preposition makes a preposition complement prediction with a 01 PSI, whereas the adverb makes no such strong prediction, and usually makes no

prediction at all. Conjunctions are also accepted by infinity, and since they activate several predictions with 01 PSI (see Part 6), they should be accepted before adverbs.

The difficulties involved in a preposition-adverb homograph are made clear in the phrase около двадцати научно-исследовательских организаций (Figure 41). In this phrase a seemingly correct syntactic analysis can be reached with either interpretation of около. The possible analysis of a preposition complement following около suggests that the preposition homograph should be selected. Of the instances of such homography observed in the analyzed texts, the correct choice has almost invariably been the preposition homograph.

With the adverb syntactic role relegated to the least desirable one, the analysis technique is subject to error whenever the adverbial homograph is indeed the correct one to be selected. The sentence формально, если задаваться...точно так же протекают ... (Figure 42) contains two such errors. The first word формально is assigned the role of predicate head rather than the role of an adverb. This error is difficult to detect because such a predicate head often does not have an explicit subject (see Part 5). A second similar error occurs with точно which is selected as a conjunction rather than an adverb. The verb протекают, which fulfills the predicate head prediction of the supposed subordinate clause introduced by точно, actually should fulfill the main clause predicate head prediction previously fulfilled by формально.

Predictions are currently made by adverbs fulfilling several familiar roles: a negative (не and ни, although the latter is not recognized as a

negative at this time), a comparative, and a subset of the latter, a comparative used as a predicate. The adverb as a comparative predicate is mentioned in Part 5 and as an ordinary comparative in Part 8.

If a verb normally governing an accusative object is negated by an immediately preceding negative adverb, the verb can govern either a genitive object or an accusative object, although not both together. Since the negative adverb occurs before the verb and the object occurs after the verb, it is necessary to transmit the information from negative adverb to verb to object.

A negative adverb is accepted by infinity as any other adverb. It makes a special negative prediction that can be fulfilled by a verb, participle, or negated adverb, which is just another adverb following *he*. If the negative prediction is fulfilled by a verb or participle, a distinctive mark, an "N" in character position 10 of word 8, is entered into the 10-word item of the verb or participle. The testing process then continues but the intersection with the negative prediction is not recorded. Thus the verb or participle can fulfill its normal prediction. When the object predictions of the accepted verb or participle are made, the "N" is tested for, and if present, the genitive object prediction is made.

The process is best described by considering an example such as the pair of sentences: математик не хотел видеть ответы (Figure 44) and математик не хотел видеть ответов (Figure 45)\*. Математик is identified as the subject of the sentence, after which *he* is accepted by infinity as a

\* In typing these two sentences in text \$, видеть was misspelled *видет*, resulting in an incorrect dictionary output.

negative adverb. A negative prediction is placed at the top of the new prediction pool. This prediction is fulfilled by the following word, the verb хотел. The negative subroutine places an "N" in word 8 of the 10-word item of хотел but does not register a success. Instead, the analysis proceeds as if there had been no intersection. Хотел finally fulfills the predicate head prediction and is marked as the predicate of the sentence. From the grammatical unit of хотел, a genitive object ("P5" in word 5), an end-wipe sentinel and a verb master marked with an "N" in the grammar word are predicted. The "N" is placed in the grammar word if an "N" exists in character position 10 of word 8.

The following word, видеть, is an infinitive verb that fulfills the verb master prediction after the object prediction has been wiped. Видеть normally predicts an accusative object ("P3"). A genitive or accusative object prediction is made instead when the "N" in the grammar word is tested. In the former example the accusative ответы and in the latter example the genitive ответов fulfill the genitive or accusative object prediction.

The accusative-genitive ambiguity is illustrated by the sentence она не хотела читать книги (Figure 45). The reader does not know whether "she did not want to read the book" or whether "she did not want to read books" unless the context of the sentence is known. The wiped genitive object prediction in this illustration is due to the "P5" coding in the 10-word item of хотела. The same error occurred in the example in Figure 22.

If a negative prediction is fulfilled by a second adverb following it, the prediction pool is updated in the normal manner and the indicator that a negative adverb had occurred is lost. This is desirable since in

the structure: не + adverb + verb + object, the object cannot occur in the genitive case unless the verb normally can govern a genitive object.

The genitive object prediction usually caused by the presence of a negative adverb preceding a verb together with the noun complement prediction often cause multiple intersections that are difficult to resolve. A classical example is indicated by the sentence читатель не найдет в сборнике систематического изложения теории и техники полосковых линий (Figure 46). After the predicate найдет is identified, an accusative or genitive object prediction is placed at the top of the pool. The locative prepositional phrase в сборнике is then analyzed. The noun сборнике leaves a noun complement prediction at the top of the new pool, above the genitive object prediction. Obviously, any genitive adjective or noun can fulfill both predictions and a semantic resolution of the problem is required. In the sentence in the example the situation is compounded since there are three places in the sentence where the ambiguity exists. Either систематического, теории, техники, or полосковых could be, syntactically, the object of найдет. Without a semantic analysis, all possible translations would have to be given. The resolution is obvious only to a trained human reader, the adjective систематического in this context acting as the object of не найдет.

The prediction pool is not normally updated after an adverb is identified. Since the predictions for the word following the adverb are the same as the predictions when the adverb was identified, the entire predicting cycle of the program is skipped. However, since a negative adverb makes predictions which have to be placed at the top of the pool, the predicting cycle is not skipped after a не and the pool is updated in the normal manner.

It was only lately noted that, with the exception of the added negative prediction, the other predictions still should not be altered. The particular problems ensuing from this difficulty are illustrated in the sections on participial phrases (Part 6) and on compound structures (Part 7). The same argument is valid for any other type of adverbial form from which predictions are made.

#### 5. The Components of a Clause: Subject and Predicate

Only several simple operations in the predictive syntactic analysis program have been used to analyze the structures described in the last two sections. In all cases predictions have been made and wiped but never modified after they had been entered in the pool. The modification of predictions is the main additional tool utilized to analyze the main components of a clause, the subject and the predicate.

Great freedom of word ordering exists in an inflected language such as Russian. For the analysis of any given clause, no a priori indication specifies whether the subject or predicate will come first. Further, the object, which is usually considered part of the predicate, may precede the predicate head, the first word of a verb phrase or short-form adjective phrase. To increase the effectiveness of the predictive analysis technique, it is highly desirable to recognize the subject, predicate, and object of a clause on a single pass regardless of the order in which they occur.

One or more of these three elements might not occur in a given clause or might be implicit due to the construction of the clause. Clauses with missing components will be considered after a discussion of the analysis of clauses containing all the components.

## A. Clauses with an Explicit Subject, Predicate Head, and Object

Of the six possible orderings of the subject, predicate head, and object, four have been found among the sentences of the six analyzed texts.

They are:

- (1) subject - predicate head - object;
- (2) predicate head - object - subject;
- (3) object - subject - predicate head;
- (4) object - predicate head - subject.

A close look at various examples has shown that the more alternative arguments in the subjects and objects of clauses, the more likely the clause components are ordered more "normally." In a short sentence with no subject-object ambiguity, all six orderings are possible: я вижу вас, я вас вижу, вижу я вас, вижу вас я, вас я вижу, and вас вижу я.

If the object of the clause occurs after the verb predicate head, the object can be identified by the ordinary object prediction generated by the coding in the 10-word item of the verb. However, if the object precedes the predicate head, a prediction must be inserted into the pool to identify the object. To distinguish the object prediction artificially inserted into the pool from the object prediction made by a verb, the former has been called a left object, referring to the position of the object to the left of the predicate head in a sentence. This prediction can be fulfilled by an instrumental or accusative basic phrase. For programming convenience, two left object predictions are put into the pool, one for each case. The order of the four predictions in the pool is:

- (1) subject;
- (2) left object (instrumental);
- (3) left object (accusative);
- (4) predicate head.

If the predicate head prediction is fulfilled before the left object predictions, the latter are wiped from the pool and are replaced by any object predictions made by the verb which has fulfilled the predicate head prediction. Only one "object" label is used by the program and the object of a clause is indistinguishable from any other type of object, such as, for example, the object of a verb infinitive subject. A set of names for distinguishing different types of object should be instituted.

Most clauses have the subject - predicate head - object order and are typified by the clause *мы находим весьма просто выражение* (Figure 47). In this example the nominal pronoun *мы* is selected as the subject since it is unambiguously nominative plural. With the identification of the subject, a number of constraints can be put on the predicate head which must agree with the subject in person, number, and gender. The grammar words of the predicate head prediction are modified so that only a first person, plural, and masculine or feminine predicate head can fulfill the prediction. The left object prediction cannot be altered since no new information regarding objects can be obtained from a subject.

The second word, the verb *находим*, is an indicative verb that fulfills the predicate head prediction with the limitations on person, number, and gender. The verb intersects with the predicate head prediction and is accepted as the predicate of the clause. The two left object predictions are now wiped from the pool and the verb makes an accusative object

prediction based on the "P3" in word 5 of the 10-word item. Весьма is an adverb and is accepted by infinity without modifying the prediction pool. Просто is a short-form adjective that can be used predicatively or adverbially. The predicate head prediction is no longer in the pool, and просто can be accepted only as a second adverb. The following noun, выражение, is then accepted as the object of the transitive verb находим.

The next clause, практическое осуществление полосковых узлов отличается большой простотой (Figure 48), illustrates a similar order with an instrumental rather than an accusative object. Note that the subject noun phrase consists of four words, практическое осуществление полосковых узлов, but only the first word, the adjective практическое which fulfills the subject prediction, is responsible for the modifications in the predicate head prediction. After практическое is analyzed the predicate head is modified so that only a third person, singular, and neuter predicate can fulfill the prediction.

The intersection between the alternative arguments of практическое and the subject prediction is not unique since the adjective can also introduce an accusative basic phrase which could be a left object. This second intersection is stored in hindsight. Such multiple intersections with the left object prediction tend to be very common and often clutter the hindsight. There is, however, really no alternative as occasional errors occur and this is the only means of recognizing them.

The two clauses just described indicate the necessity of initially predicting both an accusative and an instrumental left object. Before the verb is recognized, no guess can be made of which type might occur. There

are several verbs which govern genitive or dative objects in addition to or instead of accusative or instrumental objects. A procedure for the identification of dative objects exists (see Part 5C), so that only the genitive object preceding the verb will result in an error. The only example found of such an error in the analyzed texts is the sentence она ничего не сказала, which was illustrated in Figure 7.

A rare verb infinitive subject is illustrated in the next clause дать возможность ... есть большой шар ... (Figure 49). The infinitive subject limits the predicate head prediction to a third person, singular, and neuter predicate. There are two errors in the analysis of the part of the clause between the subject and the predicate head. Анализом is recognized as the agent of заключения, whereas it is actually used as the agent of проверить, an active construction. The program also cannot recognize the postpositional adjectives строгим and простым. The lack of unique object symbols is apparent in this clause where both возможность and большой are called objects although the former is not the object of the clause.

A large number of clauses have the object - predicate head - subject order, as in предметом настоящего сообщения является анализ (Figure 50). The identification of the noun предметом as the left object provides for the modification of the predicate head prediction, so that only a predicate that can govern an instrumental object can be accepted. With two mutually exclusive left object predictions in the pool, the intersection with one wipes both from the pool. After the noun complement basic phrase is analyzed, the verb является is tested, providing an example of a copulative verb that is not recognized as such and in which an "R4" agent prediction is

automatically inserted. However, since in both cases an instrumental basic phrase fulfills the prediction and such an instrumental basic phrase has been identified, the verb is accepted as the predicate head. With является as the predicate head, only a singular subject can fulfill the subject prediction. The noun анализ fits the description and is accepted.

Two separate left object predictions, one for the instrumental and one for the accusative, are not necessary. Just as multiple intersections can occur with object and preposition complement predictions, a combined instrumental-accusative left object can be used also.

Another interesting order is shown in the clause дает ответ статистическая теория диффузии (Figure 51) where both the subject and the object follow the predicate. Since the predicate head prediction is fulfilled before either the subject or left object predictions, the left object predictions are wiped, the subject prediction is modified so that only a third person, singular subject can be accepted, and a new accusative object prediction is entered into the pool. The noun ответ that follows the verb дает intersects with both the accusative object prediction and the modified subject prediction. The first intersection is with the new object prediction, so that "object" is chosen as the syntactic role of ответ. The following basic phrase, статистическая теория, is unambiguously nominative and can fulfill only the subject prediction, and in the process justifies the selection of ответ as the object.

One other example completes the description of the four orderings found in the analyzed texts: суммарную ширину...мы будем называть шириной полосы (Figure 52). The analysis of this clause contains several errors. The particular combination of errors makes it seem that the analysis is

correct. In this clause the object precedes the subject which, in turn, precedes the predicate. Further complication arises because a second object follows the predicate.

The analysis starts correctly with the identification of the initial noun phrase *суммарную ширину отдельных полос* as the accusative left object of the clause. The subordinate clause *которая дается формулой (2)* can be neglected for the purposes of the present exposition (see Part 6). The predicate head prediction is modified so that only a transitive verb can fulfill the prediction. After the analysis of the left object, the subject is discovered next. *Мы* fulfills only the subject prediction and further modifies the predicate head prediction whereby only a first person, plural, and masculine or feminine predicate can fulfill it. The following word, the verb *будем*, erroneously contains a "P3" (accusative object) in word 5 and thus fulfills the modified predicate head prediction.

*Суммарную ширину* is actually the object of the verb master *называть*. If *будем* did not have the "F3" code, the analysis would fail since the program does not contain a mechanism to analyze a clause in which the left object is the object of a verb master rather than of the predicate head. (See the comments in Part 4 regarding Figure 22.) The verb *называть* is correctly coded with both a "F3" and a "F4" to indicate that it can govern both an accusative and an instrumental object in one clause.

Although in all the previous examples of predicate head identification indicative verbs fulfilled the predicate head prediction, other forms can also fulfill this prediction. In the clause *большая часть статей посвящена описанию* (Figure 53), a short-form adjective *посвящена* fulfills

the predicate head prediction. Such a short-form adjective can be the predicate head regardless of the person of the subject. In the current program, however, the short-form adjective will not be accepted as the predicate head unless a third person predicate can be accepted. (This restriction is not likely to result in any errors since in scientific texts the probability of finding a short-form adjective used predicatively with a first- or second-person subject is almost nonexistent.) The number and gender of the short-form adjective must agree with the subject. Object predictions are made, based on the same codes that are found in verbs. In adjectival 10-word items these codes are all found in word 8.

The short-form adjective-adverb homograph is not always used predicatively. Particularly, if a short-form adjective-adverb homograph precedes a verb, the short-form adjective is selected as the predicate and there is no prediction in the pool for the indicative verb to fulfill. This problem appears in the clause *собственно...приходится иметь* (Figure 54). *Собственно* belongs to a class of words that are either short-form neuter adjectives or adverbs as indicated by the -о ending. The predictive analysis program analyzes *собственно* as the short-form adjective predicate head. When *приходится* is analyzed, there is no prediction for it to fulfill and it is marked an arbitrary choice. This type of error is not difficult to detect since an indicative verb can fulfill only a predicate head prediction. If the prediction is not in the pool, the intersection of the word that previously fulfilled the prediction is the error.

All clauses are not analyzed so easily as those already discussed. For example, in *физика и техника интересовало изучение процесса* (Figure 55),

физика и техника are identified as the subjects of the clause and the second intersection with the left object prediction is noted in hindsight. The predicate head prediction is modified so that only a plural and feminine predicate can fulfill the prediction. Интересовало, however, is singular and neuter and cannot fulfill the predicate head or any other prediction in the pool. Obviously, физика и техника are the object of интересовало, and изучение is the singular neuter subject desired. This type of error would be quite easy to correct by an error-correcting program.

#### B. Clauses with Implicit or Missing Components

A more difficult problem than the recognition of errors in the analysis of words in a clause is the problem of knowing when a seemingly essential component is either implicit in the clause or need not be present at all.

The most common problem is the missing object or agent. As was mentioned earlier, the government coding of verbs or participles has been found lacking. One aspect not mentioned earlier is that there is no distinction between required and optional objects. With a distinctive code it would be possible to give 01 PSI to required objects and 03 PSI to optional ones. The verb проследить in the clause проследить за движением какой-либо молекулы (Figure 56) should make an object prediction with 03 PSI, so that when the end-wipe sentinel below the object prediction wipes the object prediction, no mention is made in the hindsight. As the program stands now, the wiped object prediction represents an error in analysis.

No attempt to look for errors indicated by wiped object predictions is contemplated or would be wise until a detailed study of the object coding in the dictionary entries is carried out.

An optional object prediction in the program would assist in resolving both intersections of the alternative arguments of a word with a subject and an object prediction. In the clause протекают и другие явления (Figure 57), другие is selected as the object of протекают instead of as the subject of the clause. Eventually the subject prediction is wiped and entered in the hindsight. Under present circumstances if другие were selected as the subject, the object prediction would be marked in hindsight and the solution of the problem would not be obvious to the program.

Under several circumstances the explicit subject of a clause can be missing. A subject is always implicit if an impersonal, such as можно in можно оценить увеличение (Figure 58), is used as the predicate head. When an impersonal fulfills the predicate head prediction, the subject prediction is wiped from the pool with no mention made in hindsight.

Two types of predicate heads - neuter, singular, short-form adjectives and first person, plural, indicative verbs - often appear without explicit subjects. When перечислим in the clause перечислим несколько задач (Figure 59) is analyzed, the subject PSI is changed from 01 to 03 so that the analysis will be judged successful if no subject is found. The same action should take place with the neuter short-form adjective predicate.

The short-form adjectives and the impersonals belong to very similar classes. In a number of cases a word appears in the dictionary as a short-form adjective-impersonal homograph. This situation is entirely unnecessary and the impersonal dictionary entry can be eliminated. As an example видно in the clause отсюда видно (Figure 60), has three homographs: a short-form adjective, a parenthetic word, and an impersonal. The impersonal performs

no useful function that is not attributed to the short-form adjective also, so that the third entry is redundant. Parenthetical words are presently treated as adverbs, although in this instance the adverbial function of *видно* is already stated in the short-form adjective dictionary entry.

One last predicate form that does not take an explicit subject is the verb infinitive used as a predicate after *если* and *чтобы*, such as *характеризовать* in the clause *чтобы характеризовать кратко принцип* (Figure 61). Both *если* and *чтобы* make special infinitive predicate head predictions with 00 PSI that can be fulfilled only by verb infinitives following the conjunctions and separated from the conjunctions only by constructions accepted by infinity. If the infinitive predicate head prediction is fulfilled, the ordinary subject and predicate head predictions for the clause are wiped from the pool.

#### C. Indirect Objects

A second special object prediction, the indirect object, is placed below the predicate head prediction when the subject, predicate head, and left object predictions are inserted in the pool. The indirect object prediction serves to identify both "datives of reference" and dative indirect objects. These two grammatical constructions are shown by the examples in Figures 62 and 64, respectively.

To analyze a dative of reference or a dative indirect object, the separate indirect object prediction is needed, since this prediction can be fulfilled in addition to the regular accusative or instrumental object predictions. The indirect object prediction was designed as a catchall for

all unpredicted dative basic phrases that might be considered indirect objects and was placed under the predicate head prediction so that it would not interfere with the other object predictions. Thus an intersection with the indirect object prediction cannot take place until every other possibility has been explored.

This approach is erroneous as several examples will show. The indirect object or dative of reference should be treated in the same manner as the accusative or instrumental object of the clause. A left indirect object that is a counterpart of the left object prediction should be introduced, located above the predicate head in the pool. If the left indirect object prediction is not fulfilled when the predicate is found, the prediction should be wiped from the pool with the same mechanism that wipes the left object prediction. After the predicate is identified, an indirect object prediction can be placed in the pool below any other predictions made by the predicate.

The examples that follow will show the result of the present indirect object prediction. The proposed scheme will be discussed relative to these examples.

The dative of reference which fulfills the present indirect object prediction would usually fulfill the left indirect object prediction under the proposed scheme. The clause *мне кажется* (Figure 62) is typical of this class. The dative of reference precedes the predicate head and no subject of the clause is ever found.

The identification of an indirect object is not foolproof due to potential multiple intersections. *Ей* in the clause *ей или ему будет*

холодно (Figure 63) can fulfill both the left object and the hypothetical left indirect object. The former intersection would be selected and the latter would be entered in hindsight since instrumental left objects are much more common than dative left indirect objects. Eventual recognition of the error would provide a mechanism for selecting the second intersection as the desired one.

If the dative indirect object follows the predicate head, it usually precedes the direct object. The indirect object should be predicted by the predicate head at the same time as the direct object. The coding in the dictionary for indirect objects is usually missing and an end-wipe sentinel intervenes between the objects predicted by the verb and the initial pool if the indirect object is identified. The analysis of the sentence она пишет ему письмо (Figure 64) is typical of this action. Under present rules the indirect object prediction is placed below the predicate head prediction, such that, after the analysis of она as the subject, the prediction pool would be ordered as follows:

- (1) left objects;
- (2) predicate head;
- (3) indirect object.

The identification of the verb пишет as the predicate head would wipe the left object predictions and introduce an accusative object prediction:

- (1) object (accusative);
- (2) end wipe;
- (3) indirect object.

EMY cannot fulfill the object prediction which is subsequently wiped by the sentinel. Even though EMY is then analyzed as the indirect object, there is no prediction left for ПИСЬМО to fulfill.

Under the proposed scheme the prediction pool after она is analyzed would be:

- (1) left object;
- (2) left indirect object;
- (3) predicate head.

After номер is analyzed as the predicate head, the pool would be:

- (1) object (accusative);
- (2) indirect object;
- (3) end wipe.

Both the direct and indirect object in the pool would then be analyzed by the program.

#### D. Gaps in the Analysis Program

Two common structures are not yet identified by the predictive syntactic analysis program: the use of the comparative adverb as the predicate and the use of a complete subordinate clause as the object. Both these structures could be easily introduced by means of modifications to the existing tester subroutines.

The former oversight is illustrated by the adverb сложнее in the clause симметричные полосковые линии несколько сложнее несимметричных (Figure 65). Сложнее should be accepted by the predicate head prediction just as a short-form adjective can be accepted. The adverbial alternative intersection would be recorded in hindsight in the event of error.

The clause что длительность подключения кулонметров была выбрана (Figure 66) can be identified as the object of the verb master отметить. Alt<sup>13</sup> has pointed out that что, чтоб, чтобы, and как are conjunctions that can introduce object clauses. These conjunctions should be linked with the appropriate accusative object or left object predictions in the prediction pool when they are tested.

## 6. The Identification of Clauses and Higher Phrase Structures

To identify the individual more complex components of a sentence, the predictions of the grammatical constructions in the different components must be distinctly marked or otherwise isolated in the pool. The various groups of predictions are separated by the end-wipe and other sentinels that are described in this section.

After the mechanism necessary to identify simple sentences has been indicated, the comma end-wipe sentinel will be considered. Then recognition of subordinate clauses and finally of higher phrase structures follows.

### A. Simple Sentences

It is fairly easy to analyze simple sentences in predictive syntactic analysis. The existence of all the main components of a simple sentence can be hypothesized before the analysis even starts. A set of initial predictions for a subject, left object, predicate head, and indirect object would merely have to be supplemented with an end-of-sentence prediction. The entire prediction pool would be ordered as follows (using the present indirect object prediction):

- (1) subject;
- (2) left object;
- (3) predicate head;
- (4) indirect object;
- (5) end of sentence.

The end-of-sentence prediction actually serves both as a prediction and as a sentinel. First, as a prediction, it can be fulfilled by a period, semicolon, or any other punctuation mark that signifies the end of a sentence. A semicolon fulfills the prediction since in Russian it usually links syntactically independent complete sentences which the author wishes to keep together. Secondly, as a sentinel, the end-of-sentence prediction wipes the prediction pool after all the tests for intersections have been completed. This function has been named the end-of-sentence end wipe. If there has been an intersection with the end-of-sentence prediction, the sentence is complete and a check must be made to determine whether any predictions which have 01 PSI still remain in the prediction pool. If any are found, they indicate errors which should be corrected. The present mechanism wipes all the predictions in the pool and all those with 01 PSI are copied into hindsight.

If there has not been an intersection with the end-of-sentence prediction, then the sentence is still incomplete. At this point the program determines whether the alternative arguments of the word being tested have intersected with any of the predictions in the pool. If they have, the program proceeds to the predicting cycle: if not, then the word is an arbitrary choice. The prediction pool is completely wiped, all predictions with 01 PSI are entered in hindsight, and the chain number is incremented to point out this type of error. When these operations are completed,

control is passed to the arbitrary choice tester subroutine thus setting up appropriate conditions for the predicting cycle.

In a program which could automatically correct errors, it would not be necessary to perform some of these operations. Arbitrary choice would give sufficient indication that the forward analysis should stop and that the steps should be retraced until the error was found.

#### B. The Comma End-wipe Sentinel

Only a small number of the sentences found in scientific texts are simple sentences. The vast majority of the sentences are complex; that is, they have one or more subordinate clauses. For each clause in a sentence, a new set of subject - left object - predicate head - indirect object predictions has to be introduced into the pool. The more clauses in a sentence, the more sets of predictions that must be handled at one time. These sets of predictions must be kept distinct for a stable analysis to evolve.

While the subordinate clause in the sentence *стул, на котором он сидел, был сломан* is being analyzed, the adopted nesting hypothesis allows none of the predictions of the main clause, remaining in the pool after *стул* has been analyzed, to be fulfilled. Until there is an indication that the subordinate clause has been completely analyzed, there is no point in testing for the predicate of the main clause. The end-wipe sentinel does not help solve this problem since the scanning of the prediction pool is not affected by the presence of the sentinel. The end wipe does not distinguish between the predictions of the dependent clause and the predictions of the independent clause. That is, whereas the end-wipe sentinel eliminates predictions once they can no longer be fulfilled, the sentinel is of no help

in inhibiting the testing of other predictions, such as the predicate head of the main clause, which cannot be fulfilled until the subordinate clause has been completely analyzed.

Likewise, in the sentence *когда она ушла, он сел на стул*, after *когда* has been identified as a conjunction introducing a subordinate clause, the prediction pool contains two identical sets of subject - left object - predicate head - indirect object predictions. *Она* and *ушла* can fulfill both subject predictions and both predicate head predictions, respectively. The intersection with the main clause prediction is wrong in both cases since the subordinate clause must be completed before the analysis returns to the main clause.

To isolate sets of predictions in the pool and to inhibit the testing of some of these tests, a comma end-wipe sentinel has been adopted. This sentinel is inserted beneath all the other predictions for a clause. The name of the sentinel implies its origin. It has been hypothesized that subordinate clauses, as well as certain types of phrases, are isolated by commas from the rest of the sentence in which they occur; and the predictions for a new clause or phrase can be made after a comma has been analyzed. Actually even simple prepositional phrases are occasionally separated from the rest of the sentence by commas, as in the sentence *здесь искомое, кроме самых простых случаев, определяется...* (Figure 67).

In Russian writing, the rule that commas separate clauses is followed fairly strictly. Sentences do occur, however, in which the commas separating clauses are absent. Only one such sentence, *почти вся настоящая глава будет...и только в последнем параграфе мы ладим...* (Figure 68), has been

discovered in the analyzed texts. Whether or not such sentences are "good Russian" is an academic question since their solution will be necessary for an effective syntactic analysis scheme. When such sentences are handled by the predictive analysis program, the comma end wipe must be introduced when the new phrase or clause is detected. At that time perhaps a change of name of the sentinel might be in order!

Occasionally, during a sentence analysis, it is known that a deepest nested phrase or clause is only partially identified and that the next word must belong to the same structure. At other times there are clues that perhaps the deepest nested phrase or clause has been completely analyzed and that either a new phrase or clause might start or the analysis might return to a less deeply nested grammatical structure that was only partially analyzed before the deepest nested phrase or clause started. Therefore, the comma end-wipe sentinel must operate in two modes, which have been named the continue clause mode and the end clause mode. In the continue clause mode the comma end wipe inhibits the testing of the predictions located below it in the pool. In this mode the prediction pool is scanned as if there were no predictions located below the sentinel. (However, the predictions below the comma end wipe are retained when the pool is updated.) In the end clause mode the sentinel behaves as an ordinary end-wipe sentinel and the predictions below the comma end wipe are scanned in the normal manner.

When она from the sentence когда она ушла, он сел на стул is being analyzed, the comma end wipe should be in the continue clause mode since there is no question that the subordinate clause is currently being identified. In contrast, when the pronoun он located after the comma is being

analyzed, the sentinel should be in the end clause mode. At this time the analysis might return to the main clause (as it does in the example), might continue with another deeper nested structure, or might even remain in the same clause. The latter two possibilities are illustrated, respectively, by the sentences *когда она ушла, одетая в новой шубе, он сел на стул* and *когда она стояла, ходила или бегала, ее нога болела.*

Since the basic hypothesis for this sentinel is the assumption that, in Russian, commas separate certain phrases and clauses from the rest of a sentence, to help the analysis of these phrases and clauses, it is natural for the comma end wipe to be in the continue clause mode at all times except immediately following the recognition of a comma. The word after the comma should be tested with the sentinel in the end clause mode. The analysis of the word following a comma can then return to any previous depth of nesting. After that word is tested, all remaining comma end-wipe sentinels in the pool are returned to the continue clause mode. However, if the word after the comma can be accepted by infinity, then the depth of nesting cannot be determined until after the infinite construction such as a prepositional phrase has been completely analyzed.

To switch from the continue clause mode to the end clause mode and to provide for the analysis of an infinite construction following the comma, the comma predicts another sentinel, the comma end-wipe activator, which is placed at the top of the new prediction pool. Thus, when the alternative arguments of the word following the comma are tested against the predictions, this sentinel is the first one encountered. The comma end-wipe activator subroutine temporarily suspends the testing cycle and scans the pool for

comma end-wipe sentinels. Every one found is switched from the continue clause mode to the end clause mode. The comma end-wipe activator subroutine then tests whether or not an alternative argument of the word under test can be fulfilled by an infinite prediction. The subroutine checks for inter-sections and if there are none, the comma end-wipe activator is wiped from the pool. Control is then returned to the normal operations of the testing cycle. The change back to the continue clause mode is carried out within the executive routine of the predictive analysis program when the pool is updated.

If the word following the comma can be fulfilled by infinity, the comma end-wipe activator is not wiped. Instead, it is tested during the analysis of every following word until a word is found that has not fulfilled any prediction when the comma end-wipe activator is tested. Only then is the comma end-wipe activator wiped from the pool and the comma end-wipe sentinels finally returned to the continue clause mode. While a comma end wipe is in the continue clause mode, a word is labeled an arbitrary choice if it cannot fulfill any prediction located above the comma end wipe. If such an event takes place, all the predictions above the comma end wipe are wiped from the pool. However, all predictions below the comma end wipe remain unaffected. Thus, the analysis of a nested subordinate clause might be in error even though the analysis of the main clause can be carried out correctly.

### C. The Subordinate Clause

Subordinate clauses fall into two categories. those headed by relative pronouns and those headed by conjunctions, called relative conjunctions

to emphasize the parallel with relative pronouns. If a subordinate clause were introduced only by a relative conjunction and the conjunction were the first word of the clause, the mechanism necessary to predict subordinate clauses would be quite simple. The comma would make three predictions:

- (1) comma end-wipe activator;
- (2) relative conjunction;
- (3) comma end wipe.

If the relative conjunction prediction were fulfilled, the syntactic role would make the necessary subject, predicate head, and object predictions for the identification of the elements within the clause.

This simple scheme is inadequate for the analysis of a subordinate clause with a relative pronoun or a conjunction such as *ли*, as in the sentence *он не помнит, видел ли он его*, where the conjunction is not the initial word of the subordinate clause. In the clause *которая принимается...* (Figure 69) the relative pronoun *которая* both introduces the clause and acts as the subject of the clause. If only the first function of *которая* is identified when the relative pronoun is analyzed, then the subject of the clause cannot be found during the pass through the sentence.

The following technique was adopted for the predictive analysis program to circumvent this difficulty. Both a relative conjunction and a relative pronoun prediction are placed in the pool. Two predictions are not necessary. The relative conjunction and the relative pronoun can be combined into one prediction. *Что* is the only word in the dictionary at this time that is listed both as a relative conjunction and a relative pronoun. *Что*, although usually used as a relative conjunction as in the sentence *он сказал,*

что она делала свою работу (he said that she had been doing her work) can also be used as a relative pronoun as in the sentence он сказал, что она делала (he said what she had been doing).

The subject - predicate head - object predictions are placed in the pool at the same time. To forestall testing these predictions before the existence of a new clause has been established, the PSI of all these predictions are made inactive. After the analysis of the comma, the predictions to analyze subordinate clauses are ordered as follows:

- (1) comma end-wipe activator;
- (2) relative conjunction;
- (3) relative pronoun;
- (4)-(7) subject, predicate, and objects (inactive);
- (8) comma end wipe;
- (9...) (miscellaneous old predictions).

Now, if either the relative pronoun or relative conjunction prediction is fulfilled, the testing of the pool is suspended and the inactive predictions located below the relative pronoun are activated. If которая of the previous example которая принимается... is analyzed, it is first identified as the relative pronoun and a "K" is entered in word 9 as an indication. A success is not recorded by this intersection, so that которая can also be selected as the subject of the clause.

If the clause is introduced by a relative conjunction such as если in если дополнительное знание... (Figure 70), the relative conjunction prediction is fulfilled. A success is registered in the normal manner, and, of course, the activated predictions for the new clause remain in the pool to be analyzed during the testing of the words following the relative conjunction.

The intersection of the relative pronoun prediction with an alternative argument can follow the identification of the syntactic role. In the analysis of the clause *в основе которой лежит теория* (Figure 71), the comma end-wipe activator sentinel is not wiped from the pool when the preposition *в* is accepted by infinity. After *основе* is analyzed, the prediction pool would have the following predictions of consequence at the top:

- (1) noun complement;
- (2) comma end-wipe activator;
- (3) relative conjunction;
- (4) relative pronoun.

*Которой* fulfills the noun complement prediction and its syntactic role is determined. The relative pronoun prediction also intersects with *которой*. The inactive predictions are activated after which the testing cycle proceeds. No further intersections are recorded. Although the new clause has been positively identified, the comma end-wipe activator is still in the pool and is wiped only upon the analysis of the subsequent word, the verb *лежит*.

One last example, *свойства которых определяются...* (Figure 72), illustrates a difficulty that cannot be resolved on a single left-to-right pass. In this clause the subject *свойства* precedes the relative pronoun *которых* that acts as the noun complement of *свойства*. When *свойства* is being analyzed, there is no indication that a new clause is forthcoming and no intersections in the pool can be found. The necessary clue exists only in the following word.

Although this difficulty can be handled by use of an error-detecting and error-correcting mechanism, it must be pointed out that the error will

not be corrected if the forward analysis stops after the arbitrary choice has been labeled. The analysis must be allowed to proceed by some means to identify the existence of the relative pronoun. Only then can the error-correcting mechanism be put into effect. Otherwise, the analysis will try a host of alternative analyses, none of which will be correct.

A possible solution to this problem and the problem of analyzing a sentence consisting of several independent clauses separated by commas has been suggested. If the analysis of a comma, making the usual set of predictions, fails to help resolve the rest of the sentence, a second analysis of the comma can be tried. Thus the comma must fulfill another prediction by infinity which is normally entered in hindsight. Such a prediction, the clouser, has been created, although no tests have been made of its effectiveness. A comma accepted as a clouser predicts the necessary subject, predicate head, and object predictions with active PSI. Also, if desired, a relative pronoun prediction which can be fulfilled after the subject or object predictions might also be predicted if a comma is accepted as a clouser.

#### D. The Gerund Phrase

The gerund phrase, like the subordinate clause, is usually isolated from the rest of a sentence by commas. The initial word of this phrase is always a gerund and can be analyzed by predicting a gerund at the same time as the relative conjunction and relative pronoun. A typical example of a gerund phrase is превращаясь в атомы другого элемента (Figure 73). The ordinary predictions made by verbs are sufficient to analyze the rest of the phrase.

The gerund phrase and the subordinate clauses are the only structures predicted, surrounded by commas, with no syntactic links to the rest of the sentence in the present version of the program. These are therefore the only structures to be predicted by the comma. The first few predictions made by the comma in the present program are:

- (1) comma end-wipe activator;
- (2) gerund;
- (3) end wipe;
- (4) relative conjunction;
- (5) end wipe;
- (6) relative pronoun.

Several end-wipe sentinels have been inserted between the predictions. Thus the gerund prediction is wiped if a new clause is identified and both the gerund and relative conjunction are wiped if the new clause contains a relative pronoun.

#### E. Initial Predictions

The combination of predictions for a clause with the predictions made by the comma provide the set of initial predictions that are inserted into the prediction pool before the analysis of the sentence is begun. A main clause must exist in every sentence. It is possible, however, that a sentence will start with a subordinate clause or a phrase structure. A prepositional phrase can be accepted by infinity but a gerund phrase must be predicted. The predictions made by a comma, when placed before the predictions for the main clause, allow this type of sentence to be analyzed. The initial prediction pool consists of eighteen predictions:

- |   |                                  |
|---|----------------------------------|
| (1) comma end-wipe activator;             | (10) predicate head (inactive);  |
| (2) gerund;                               | (11) indirect object (inactive); |
| (3) end wipe;                             | (12) comma end wipe;             |
| (4) relative conjunction;                 | (13) subject;                    |
| (5) end wipe;                             | (14) left object (instrumental); |
| (6) relative pronoun;                     | (15) left object (accusative);   |
| (7) subject (inactive);                   | (16) predicate head;             |
| (8) left object (instrumental)(inactive); | (17) indirect object;            |
| (9) left object (accusative)(inactive);   | (18) end of sentence.            |

(The number of predictions would be reduced by four if the left object predictions were combined as well as the relative conjunction and relative pronoun predictions.)

If a sentence starts with the main clause, none of the first eleven predictions is fulfilled. They are all subsequently wiped by the comma end-wipe sentinel which has been put into the end clause mode by the comma end-wipe activator. But if some structure other than the main clause starts the sentence, the last six predictions are held in abeyance until the initial structure has been fully analyzed.

#### F. The Participial Phrase and the Modifier

The participial phrase and the gerund phrase differ in the predictive syntactic analysis technique because the participial phrase is predicted by a preceding noun. Subordinate clauses and other types of phrases which are not now syntactically linked to the rest of the sentence will eventually be handled by a more sophisticated version of the program. The distinction, at the present time, is only temporary.

Every noun predicts a modifier that agrees with the noun in case and number. Due to the nature of the prediction pool, the later a noun occurs in the sentence, the closer to the top of the pool is the modifier prediction made by the noun. The modifier prediction is usually fulfilled by a participle following a comma. Thus the modifier prediction is initially given a 50 PSI which makes it inactive. The prediction is activated by the comma end-wipe activator at the same time that the mode of the comma end wipe is altered. In this manner the modifier has a 00 PSI when the word after the comma is tested.

Two participles, помещенные в... and возникающих в... (Figure 74), illustrate the modifier prediction. Помещенные fulfills the modifier prediction made by the noun статьи and activated by the comma between the two words. Similarly, возникающих fulfills the prediction made by the noun проблемах and activated by the comma following the noun. Multiple modifier intersections are common since every noun makes a modifier prediction. In the phrase возникающих при... (Figure 75), the participle intersects with the modifier predictions of the nouns задач and схем. The former intersection is preferred because задач follows схем in the sentence. A syntactic analysis cannot distinguish the relative validity of "problem arising..." or "circuit arising..." although the choice is obvious to the reader.

The present test for modifiers includes tests for case and number but not for gender. This is an oversight since a true modifier must agree with its antecedent in gender. This oversight resulted in three intersections between the alternative argument of называемой in называемой кодом числа (Figure 76) and the modifier predictions in the pool. Modifier predictions

with the preceding nouns *напряжения*, *последовательности*, and *виде* were noted. Of these, only the intersection with *последовательности* also agreed in gender.

The modifier prediction has accounted for the analysis of other nonparticipial modifiers as well. Simple adjectival appositives can also fulfill the modifier prediction if they occur after a comma. The phrase *ненужных для регистрации сигнала* (Figure 77) is analyzed as an appositive to the noun *частот*.

The modifier prediction is troublesome when a series is being analyzed. If this series consists of three or more items, so that commas are used to separate all but the last two items, these items are selected as modifiers. Sometimes the items in the series agree only in case and not in number, in which case this problem does not arise. Thus, the series *фольги, ножницы и клей* (Figure 78) cannot be analyzed as modifiers while the series *фильтры, направленные ответвители, гибридные схемы и т.п.* (Figure 79) can be so analyzed.

An idea for analyzing a series has been suggested but only partially tested. A comma can be accepted as an infinite conjunction (always listed in hindsight). In this way a set of items separated by commas and agreeing in case can be linked together, using the compound predictions (see Part 7). Until error-correcting routines are utilized, this approach cannot be checked.

The modifier prediction is particularly affected by words intervening between itself and the preceding comma because of its 00 PSI. The modification of the prediction pool by these intervening words results in the modifier prediction being wiped from the pool. The most common instance is when the participle is negated by the adverb *не* as in *не встречающаяся в*

случае ... (Figure 80). Встречающаяся is a participle that should fulfill the modifier prediction of its antecedent трудность. A solution to this problem would be to change the PSI to 03 and follow the modifier prediction with an end-wipe sentinel.

Adjectives and participles that fulfill modifier predictions make the usual set of predictions even though a participle that fulfills a modifier prediction cannot have a master. A distinct example of an erroneously fulfilled master prediction occurs in the clause соответствующих десяти различным дальностям (Figure 81). Десяти is actually the initial adjectival numeral in a numeral basic phrase and should fulfill the dative object prediction generated by соответствующих. In the present analysis, десяти is selected as the master of the participle and the dative object prediction is wiped from the pool in the process. The following word различным is then accepted as an arbitrary choice, indicating the error. For the analysis to proceed with no error indication, it would be necessary for the adjectival homograph of десяти to fulfill the object prediction.

## 7. Compound Structures

Any structure from individual words to entire clauses can be compounded, and every such possibility must be provided for in the prediction pool. Four coordinating conjunctions, и, или, а, and но, are presently recognized by the predictive analysis program. A compound structure might follow any of the four conjunctions. Such a conjunction can occur at any point in the analysis of a sentence and must be predicted by infinity. The name infinite conjunction has been assigned for this purpose.

Since a compound structure can occur only following an infinite conjunction, a mechanism whereby a compound prediction cannot be fulfilled at any other time is essential. The basic tool for the identification of such a structure is the inactive prediction (with a PSI greater than 49). Every compound prediction is marked 99 PSI, which is reserved for this purpose only. This prediction cannot be tested until the PSI has been changed and the prediction activated. When an infinite conjunction is analyzed, a new sentinel, the 99-activator is placed at the top of the pool. When the 99-activator is tested, it activates all the compound predictions by changing the PSI from 99 to 49. The 99-activator is then wiped from the pool subject to the same restraints as the comma end-wipe activator (see Part 6). The compound predictions remaining in the pool after the testing cycle has been completed are restored to their original 99 PSI until another infinite conjunction is analyzed.

In predictive syntactic analysis the compound structures are those segments following an infinite conjunction, and not the entire string including the conjunction and the segments on either side.

Virtually every analyzed word makes some type of compound prediction. (Mention of the compound predictions was omitted previously in this section as it was felt that consideration of them would have complicated the description of the analyses of other structures.) Compound predictions that can no longer be fulfilled are wiped from the pool in the normal manner. Thus the number of compound predictions in the pool at any time is usually significantly less than the number of analyzed words in a sentence.

## A. Predicting with Compounding Conjunctions

A simple example of the compound analysis process is illustrated by the phrase на наблюдениях и свидетельствах (Figure 82). The noun наблюдениях is analyzed as the preposition complement. As a noun, наблюдениях predicts (1) a noun complement, (2) an inactive modifier, and (3) an agent as directed by the "R4" in word 8. Because the syntactic role of the noun is preposition complement, two additional predictions are made: (4) a compound preposition complement in the locative case with 99 PSI and (5) an end-wipe sentinel. The sentinel will wipe all these predictions that are not subsequently fulfilled.

The following word, the conjunction и, does not fulfill any of the first four predictions. However, и is accepted by infinity and the end-wipe sentinel does not wipe the predictions. When the prediction pool is updated, the noun complement is wiped and a 99-activator is placed at the top of the pool which now is ordered as follows:

- (1) 99-activator;
- (2) modifier (50 PSI);
- (3) agent;
- (4) compound preposition complement (locative)(99 PSI);
- (5) end wipe;
- (6...) (miscellaneous old predictions).

The alternative argument of the next word, the noun свидетельствах, cannot be accepted by infinity, so that the 99-activator changes all 99 PSI to 49 PSI. The 99-activator is then wiped from the pool. The testing process continues and the alternative argument intersects with the now active compound preposition complement prediction.

Compound predictions of government structures are simpler than those of agreement structures. As was shown in the last example, the compound preposition complement prediction is merely another prediction of a basic phrase in the same case as the preferred argument of the word making the prediction. The compound singular and plural nouns in *уменьшить размеры и* *ее* (Figure 83) are typical. The problem of predictions which must agree in number arises since two compounded singular words are equivalent to a single plural word.

A solution to this problem has been created for the case of compound subjects as in the clause *отсутствие...и постоянство...обеспечиваются...* (Figure 84). The analysis of *отсутствие* as the subject causes the predicate head prediction to be modified so that only a singular neuter predicate can fulfill the prediction. A compound subject prediction is also entered in the pool. After being activated by *и*, the compound subject prediction is fulfilled by *постоянство*. It is now necessary to modify the predicate head prediction a second time so that a plural rather than a singular predicate fulfills it. *Обеспечиваются* then fulfills the remodified predicate head prediction.

Although only compound subjects have been handled in this manner up to now, the change in number has to be considered in all agreement predictions. The agreement between an adjective and its master is another example. The singular adjectives can have one plural noun master. Conversely, a plural adjective can be followed by two singular compounded noun masters. Although such cases are rare, several examples have been noted. The first instance is illustrated by the phrase *симметричного и несимметричного типов* (Figure 85) and the second by *своя скорость и положение* (Figure 86).

A sentence with several interesting compounding examples is illustrated in Figure 87. The word *и* appears four times in the sentence. The compound preposition complement and compound verb complement are representative of ordinary government compounding. A third compound structure is the pair of compound prepositions *для*. (The fourth use of *и* is considered in Part 7B.) When the prepositions are compounded, the two prepositional phrases offset each other. A compound preposition is presently limited to a second occurrence of the identical preposition after an infinite conjunction. The limitation does not, however, take into account the essential equivalence of the prepositions *в* and *во* and of *о*, *об*, and *обо*. Other prepositions may be compounded also. Prepositions should be divided into groups by meanings, e.g., prepositions of location such as *на*, *под*, *за*, etc. A preposition belonging to one such group could compound with any other preposition of the same group.

Other uninflected forms can also be compounded in the language. Compound adverbs do not exist in the program. A rarer compound structure that was discovered among the analyzed sentences was the compound relative conjunction *что* in the sentence *испытания показали, что..., и что...* (Figure 88).

### B. Infinite Conjunction Homography

Several functional difficulties arise because the infinite conjunction *и* is homographic with the adverb *и* and also the relative conjunction *и*.

When *и* is used adverbially as it is in the fourth instance *сборник и в настоящем...* (Figure 87), the word following *и* should not intersect with

a compound prediction. As an adverb, и serves as a stress on the following word or phrase. Particularly, since the English translation of и used as an infinite conjunction is usually "and," and as an adverb it is usually "also" or "even," the analysis program must distinguish between the two homographs.

It would be interesting to test whether or not an infinite conjunction can be identified by the intersection with a compound prediction by the word following the infinite conjunction. The test would require that all other predictions be deactivated when the 99 PSI predictions are activated. If there are no intersections, the analysis of the infinite conjunction is in error and must be corrected.

Such an approach would also help solve a presently ambiguous situation. That is, when two nouns are compounded by an infinite conjunction they are always analyzed correctly; but when two adjectives are compounded in the same way they are analyzed in a different manner. The second adjective is analyzed as the master of the first. Узлов и элементов (Figure 89) and то или иное расстояние (Figure 90) represent the two possibilities. The different analyses result from the different predictions generated by nouns and adjectives. By the time that элементов is analyzed, the noun complement prediction made by узлов is no longer in the pool and the compound noun complement prediction is the first prediction fulfilled. In contrast, the master prediction generated by то is above the compound preposition complement prediction when иное is analyzed. The compound preposition complement prediction intersection is thus listed in hindsight. Although the ambiguity might be considered genuine in the latter case, the

compound syntactic role should be preferred since it provides more information about the syntax of the structure.

Such an approach to the problem would help to solve some of the residual object predictions. Predictions of objects of adjectives and nouns occur randomly in texts. These predictions are not of high priority but they often interfere in the analysis because of their relatively high position in the pool. A test whereby the word after an infinite conjunction could be fulfilled only by a compound prediction would counteract the effect of the order of the predictions in the pool. As an example in the phrase с лучшей добротностью и лучшей экранировкой (Figure 91), добротностью predicts a dative object. The и that follows sets up the mechanism for activating the compound predictions. The mechanism should be stronger; only a compound prediction is really being looked for since и was selected as an infinite conjunction. As it is now, the object prediction is above the compound preposition complement prediction and an error in analysis is subsequently indicated by the arbitrary choice designation of экранировкой.

A second prediction pool only for compound predictions has been considered recently in informal discussions. With two pools it would be necessary to update the second pool every time the first pool was updated. Also, compound predictions which could no longer occur would have to be eliminated promptly. Thus both pools would have to be treated in parallel, and their distinction would become completely obscured.

If an analysis technique whereby an infinite conjunction must be followed by a compound construction is adopted, it is necessary to remember that the first adjective of a compounded pair of adjectives will not have

a master. This desired result is obtained now when adjectival numerals are compounded since an adjectival numeral (see Part 3E) is not recognized as a potential numeral master. Thus, in the phrase от одного или нескольких... (Figure 92), нескольких is recognized as only the compound preposition complement and not the master of одного. In the process the master prediction generated by одного is wiped from the pool and recorded as an error in hindsight.

The third homograph of the infinite conjunction - adverb - relative conjunction set necessitates still another form of analysis. If a coordinating conjunction is used to compound two entire clauses, the coordinating conjunction acts as a relative conjunction. According to the hypothesis that commas separate individual clauses, such a situation can arise only if the infinite conjunction immediately follows a comma. A test is made to check whether or not the initial clause has been completely fulfilled. Since clauses connected by infinite conjunctions are independent, the initial clause cannot be continued after the second clause is completed. The test of a completely analyzed clause is that the subject and predicate of the clause have been identified and those predictions are no longer in the pool. If those predictions cannot be found, a relative conjunction intersection is possible. Such a situation exists in the sentence она хотела идти, а другие продолжали говорить (Figure 93).

Such an approach is not without inherent dangers. A counterexample of the last example was not difficult to find: the sentence в сборнике помещена также статья...и статья... (Figure 94). The и immediately follows a comma and the subject and predicate head predictions of the clause have

been fulfilled. И is taken to be the relative conjunction and the second clause is never successfully analyzed. Since no predicate head can be found, the analysis should be able to select и as the infinite conjunction and treat the second статья as the compound subject of the initial clause.

#### 8. Miscellaneous Constructions Analyzed by the Predictive Analysis Program

Previously in this paper, various grammatical rules have been grouped into classes. Several of the rules in the program do not fit into these classes and will therefore be discussed separately here.

##### A. The Comparative Adverb and Чем

A comparative adverb, like a negative adverb (Part 5), can make predictions, since it is followed by a noun phrase or a clause. To analyze the construction that follows the comparative adverb, a comparative complement is predicted. This prediction can be fulfilled by a genitive basic phrase, the conjunction чем, or a comma.

The use of the genitive basic phrase as a comparative complement is illustrated in the sentence вы на три года старше моего друга (Figure 95). The comparative adverb is used as the predicate in this sentence, a construction that the predictive analysis program does not yet recognize (Part 6). The same type of sentence with a verbal predicate would be он был старше моего друга.

Whenever the comparative complement prediction is fulfilled by чем, the analysis of the comparative complement structure can be continued further. A distinction has been made when a comma does or does not intervene

between чем and the comparative adverb. If there is no comma, it is assumed that the phrase following чем is parallel to some phrase that preceded чем. Thus ее подруга is nominative and singular, parallel to она in the sentence она красивее чем ее подруга (Figure 96).<sup>\*</sup> Here too, the comparative adverb is used as the predicate. The compound predictions are utilized to predict the parallel construction since the grammatical information contained in the compound predictions is exactly what is desired. No attempt has been made to change the name of the syntactic role in word 9 and so ее подруга appears as a compound subject. The operation to identify the parallel construction is carried out by placing a 99-activator (see Part 7) at the top of the pool after чем has been analyzed. This is done only if чем fulfills a comparative complement prediction.

The intersection of a comma with a comparative complement prediction is meaningless and is a residue of an earlier attempt to account for the comma that can intervene between the comparative adverb and чем such as слабее, чем... (Figure 97). A чем following a comma is presently not analyzed correctly. This could be overcome by allowing the comma to fulfill some other prediction that would then allow the comma to carry forward the comparative complement prediction to the word after the comma. The чем would then make the suitable predictions for either a parallel basic phrase or for an entire new clause.

The genitive basic phrase and the чем can both follow the comparative adverb in the same sentence as in the clause ...более трудностей, чем...

---

\* The "INCOMPAT EE" in the 10-word item of красивее means that the stem красив-, stored in the dictionary, is listed as an adjective but that the affix -ее is an adverbial and not an adjectival ending.

(Figure 98). The present analysis program can identify only one comparative complement. By having two separate predictions made which could be fulfilled independently, a structure as illustrated in Figure 98 could be correctly analyzed.

#### B. Parenthetical Comments

A set of sentinels has been developed to separate predictions in the pool which refer to different phrase and clause structures. The most obvious use of such sentinels is to isolate predictions of structures that are explicitly isolated in the sentence itself. A pair of parentheses and a pair of quote signs are the most common symbols used to isolate structures. A pair of dashes is also commonly used in Russian.

Since a parenthetical comment can occur anywhere in a sentence, a left parenthesis can be predicted only by infinity. The analysis of a left parenthesis precludes the continuation of the analysis of the rest of a sentence until a right parenthesis has been identified. This is achieved by predicting a right paren end wipe. This, like the end-of-sentence prediction, is a combination prediction and sentinel. Only a right parenthesis can fulfill the right paren end wipe, and the testing of the prediction pool cannot go beyond the right paren end wipe. Thus the right paren end wipe deters the testing of the older predictions until after the analysis of the right parenthesis which causes the prediction sentinel to be wiped from the pool. In the clause *расчет электрических параметров...в них* (Figure 99), the parenthetical series (*характеристического сопротивления, затухания, и т.п.*) does not interfere with the analysis. After the comma outside the parentheses,

the predictive analysis program tests the old predictions and identifies "параметровнеоднородностей" as the compound noun complement of параметров or полосковых линий, a choice that can be resolved on semantic grounds only. The compound noun complement is not a real word, but is the result of a typographical mistake where two words параметров and неоднородностей have been run together. This example is still the best one in the analyzed texts. It indicates the effect of the right paren end-wipe sentinel since the compound predictions from the words within the parentheses are no longer in the pool to intersect with the alternative arguments of the pseudoword.

By the present program, the analysis of the structure within the parentheses is incomplete. The structure can exist as one of three types: (1) it is syntactically unrelated to the sentence (as in the example); (2) it can be predicted in the normal manner since it is a part of the sentence (as the parenthetic comments in this sentence); or (3) it is a complete sentence in itself. Under the present scheme if a word cannot be analyzed by the predictions located above the right paren end wipe, it is categorized as an arbitrary choice. This crude approach is adequate only for parenthetic structures of the first type. More commonly, the parenthetic structure is a participial or prepositional phrase and the parentheses are equivalent to a set of commas. The equivalence holds also if the parenthetic structure is an entire clause, either dependent or independent. This equivalence can be utilized to further the analysis of parenthetic constructions.

The identification of parenthetic structures has been experimentally limited to actual parentheses. Other symbols that serve identical purposes

can be recognized with the same predictions. The quote signs which are spelled out "\$QUOTE" and "\$UNQUOTE" in texts analyzed by the predictive analysis program (Figure 100) are one such set of symbols and the two dashes "--" (Figure 101) are another. The quotes are ignored in the analysis since they are dollar-sign items. This is a class of items which consists of remarks by the typists who prepare texts. A "QUOTE" and an "UNQUOTE" are dollar-sign items because the typist must write out the words instead of using the quotation-marks symbol ("). The dashes appear as missing words since they are considered an unknown type of punctuation mark. The dash is not as accurate an indicator of parenthetical remarks as the parentheses or quotes since it can be used for other purposes, quite often singly and not necessarily in pairs.

#### 9. The Analysis of Complete Sentences

In the preceding discussions, the predictive syntactic analysis program has been dissected into minute segments which have been treated individually. With such an approach the analysis of entire sentences has been largely neglected. A number of complete sentences have been illustrated among the examples. Sentences with errors in their analyses appear in Figures 5, 7, 21, 42, 46, 49, 61, 62, 67, 87, 88, 94, 96, and 97. The types of error are discussed in the text. Other sentences analyzed correctly appear in Figures 13, 19, 38, 43, 44, 45, and 90. Both successfully and unsuccessfully analyzed sentences have been included to give some feeling of the present power and potential value of the predictive analysis program. The reader should be able to reproduce the analysis of complete sentences,

as well as the analysis of any sentence segments from other figures, with the complete set of rules given in Appendix A.

Another set of complete sentences analyzed by the program have been included (Figures 102-112). These sentences, taken from texts OOH and OOK, are interesting examples analyzed by the existing program. Of the eleven sentences, only the three in Figures 102, 104, and 108 have been analyzed correctly. Various errors, both automatically detected and undetected, exist in the analyses of the eight other sentences.

Several of the detected errors can be corrected easily. The wiped numeral master prediction originating from the subject *одним* in the sentence beginning with *одним из средств...* (Figure 103) indicates that *одним* should have been chosen as a nominal and not as an adjectival. *Поэтому* in the sentence *поэтому освоение полосковых линий будет означать...* (Figure 109) should have been selected as an adverb instead of as a relative conjunction. The wiped initial subject and predicate head predictions serve to indicate this error. The error in the verb phrase *нанесен проводящей краской...* (Figure 112) has been made quite clear by the wiped object master prediction originating from the adjective *проводящей*. The adjective should have been selected as the instrumental agent of *нанесен* instead of the genitive object of the same verb complement.

Although two subject predictions are wiped during the analysis of the sentence *очевидно, что подобная же задача возникает...* (Figure 106), there is no error in the analysis. The predicate head of the main clause, the short-form adjective *очевидно*, need not have an explicit subject; and the second subordinate clause *когда изучают процесс химической реакции* also

has no subject. To detect that the latter clause is correct presents a problem.

The sentence containing the noun phrase вопросам точного и приближенного определения... (Figure 105) contains a "borderline" error. This sentence raises a question as to whether и should be translated by "and," since no compound prediction was fulfilled.

The sentence in Figure 110 contains several errors of the type already described here. Многие is analyzed in the same manner as приближенного in Figure 105; and которой is selected as an adjectival rather than as a nominal, as was одним in Figure 103. A third error in this sentence is the result of selecting или as a relative conjunction instead of as an infinite conjunction. Теория (word 280) is then incorrectly selected as the subject of the new clause instead of the compound subject of the first subordinate clause. However, no predicate is ever found and this should be sufficient information to reject the analysis.

The last two examples in Figures 107 and 111 contain errors which cannot be syntactically detected. In the clause какие богатые возможности могут представить полосковые линии... (Figure 107), the subject has been selected as the object and the left object has been selected as the subject. In the verb phrase позволяет во многих случаях значительно уменьшить размеры... (Figure 111), уменьшить is selected as the verb master of случаях instead of the verb master of позволяет. Some form of semantic analysis is required to resolve both these problems.

A reader who wishes to study the analyzed texts abstracted in this section may obtain upon request prints of the entire texts OOH and OOK as well as the four others mentioned.

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\* Throughout these references the following abbreviations are used:  
NSF-3, 4, etc. - Mathematical Linguistics and Automatic Translation,  
Reports to the National Science Foundation by the Compu-  
tation Laboratory of Harvard University, Cambridge, Mass.

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## APPENDIX A

### RULES FOR PREDICTIVE SYNTACTIC ANALYSIS

The set of grammatical rules which are represented by the subroutines in the experimental predictive syntactic analysis program are presented in this appendix. For the reader to simulate the actions of the analysis program, he needs only these rules, the coding manual,<sup>17</sup> and a sample of text material that has been looked up in the Harvard Automatic Dictionary with the continuous dictionary run program.<sup>21</sup>

The rules (and subroutines) have been divided into three categories: predictors, testers, and sentinels. A different format is used to describe each of the three categories.

An illustration of the use of this appendix will help familiarize the reader with the technique. Consider the process when a subject prediction is being tested against the alternative argument /noun, nominative, singular, masculine/ of a noun such as студент, the first word in a hypothetical sentence.

The reference information for the subject tester (prediction) indicates that the subject prediction can be made by one of three predictor subroutines: initial, comma, or clauser. The initial predictor makes two subject predictions, one active and one inactive, the comma predictor makes an inactive subject prediction, and the clauser predictor makes an active subject prediction. The subject prediction can be modified either by the verb predicate head predictor or by the adjective predicate head predictor.

The testing criteria indicates that the subject prediction can be fulfilled either by a noun, adjective, participle, numeral, pronoun, or by

a verb infinitive. The formal definitions of these six classes can be found under the appropriate predictor headings (i.e., noun predictor, adjective predictor, etc.). If the subject prediction has been modified by either of the predicate head predictors there are further limitations. Then the subject prediction can be fulfilled by a verb only if the subject tester is modified to be third person, singular, and neuter; it can be fulfilled by a pronoun only if it is modified to be in the same person as the pronoun; and it can be fulfilled by any of the other four types of words only if it is modified to be in the third person.

There are additional tests that must be made before the prediction can be fulfilled. The number must be tested where applicable, and, of course, the case must be nominative. Wherever appropriate the gender is also compared. If the predicate head has already been fulfilled (and the subject prediction modified) character position 3 of the second grammar word has been modified; likewise, if the subject must be a verb (this can only occur with a compound subject) character position 2 has been modified.

No particular action outside of the normal testing cycle is required with this prediction. The mark to be placed in word 9 of the analyzed 10-word item is listed as the "syntactic role mark."

With the suggested example, the subject prediction is fulfilled. `Студент` has a nominative alternative argument. Since `студент` is the first word of the hypothetical sentence the subject prediction is unmodified and the test for case is the only significant test.

The testing cycle now proceeds to test the alternative arguments of `студент` against the other predictions in the pool. The syntactic role of

subject is given to `сгудент` in this example since the intersection just described is the first one.

After the testing cycle has been completed, new predictions are put into the pool. The correct predictor, with which to start making new predictions, is indicated by the class that "fulfilled" the syntactic role, i.e., the noun `сгудент`.

The reference information for the noun predictor indicates that every word with an "N" in character position 1 or a "PN" in character positions 1 and 2 of word 5 of the 10-word item makes the listed predictions. Among the tester subroutines that can be fulfilled by nouns listed next, the subject tester can be found. The noun predictor subroutine may also be called in by a previous predictor subroutine, either a pronoun or a numeral predictor.

The predictions made by the noun predictor are listed under "action taken." The dictionary entry of `сгудент` does not have any object, agent, or verb master government marks, so that only two new predictions are made, a noun complement and a modifier. Any grammatical information needed to be stored with the noun complement and modifier testers is listed under the headings of the two testers, respectively.

Since `сгудент` was chosen as the subject, after the two new predictions are made, a second predictor subroutine, the adjective-noun subject predictor must be called in.

This second predictor subroutine makes two more new predictions, a compound subject prediction and an end-wipe sentinel, and the new pool is headed by these new predictions in the order predicted: noun complement, modifier, compound subject, and end wipe.

The adjective-noun subroutine also modifies the predicate head, and in this particular instance marks the predicate head so that only a third person, singular, and masculine predicate can fulfill the prediction. Since `студент` was not selected as the compound subject, no other action is taken.

There are no other predictor subroutines to be called in so that the old prediction pool can be modified and re-inserted below the four new predictions. The subject prediction, having been fulfilled, is wiped and all the remaining old predictions are appended to the four new ones.

With the creation of a new prediction pool, the predicting cycle is complete and the alternative arguments of the next word in the sentence can be tested against the new set of predictions.

The analysis of the noun `студент` is typical of the predictive syntactic analysis program. Exceptions to the procedure just outlined are always explicitly marked at the appropriate places. After these special actions are performed control returns to the ordinary testing or predicting cycle, again unless specifically indicated to the contrary.

LIST OF SUBROUTINES

	<u>Predictors</u>	<u>page</u>
Initial . . . . .		I-103
Clauser . . . . .		I-104
Comma. . . . .		I-105
Noun . . . . .		I-106
Pronoun . . . . .		I-107
Adjective . . . . .		I-108
Participle . . . . .		I-109
Verb . . . . .		I-110
Adverb . . . . .		I-111
Negative. . . . .		I-112
Negative adverb . . . . .		I-112
Numeral . . . . .		I-113
Numeral master. . . . .		I-114
Preposition. . . . .		I-114
Gerund . . . . .		I-115
Infinite conjunction. . . . .		I-115
Relative conjunction. . . . .		I-116
CHEM (chem) . . . . .		I-117
Modifier. . . . .		I-117
Object . . . . .		I-118
Left object. . . . .		I-119
Indirect object . . . . .		I-120
Agent. . . . .		I-120

## LIST OF SUBROUTINES (continued)

	<u>page</u>
Noun complement . . . . .	I-121
Preposition complement. . . . .	I-121
Adjective-noun subject. . . . .	I-122
Pronoun subject . . . . .	I-123
Verb subject . . . . .	I-124
Verb predicate head. . . . .	I-124
Adjective predicate head . . . . .	I-125
BYT' (быть) . . . . .	I-126
Infinitive predicate head. . . . .	I-127
Verb complement . . . . .	I-127
Verb master . . . . .	I-128
Preposition object . . . . .	I-128
\$---\$ . . . . .	I-129
Left paren. . . . .	I-129
End of sentence . . . . .	I-130

Testers

Subject. . . . .	I-131
Predicate head . . . . .	I-132
Infinitive predicate head. . . . .	I-133
Master . . . . .	I-134
Numeral master . . . . .	I-135
Verb master . . . . .	I-136
Verb complement . . . . .	I-137
Modifier . . . . .	I-138
Object . . . . .	I-139

LIST OF SUBROUTINES (continued)

	<u>page</u>
Left object . . . . .	I-140
Indirect object . . . . .	I-141
Agent . . . . .	I-142
Noun complement . . . . .	I-143
Preposition complement. . . . .	I-144
Chain numeral. . . . .	I-145
Negative . . . . .	I-146
Comparative complement. . . . .	I-147
Preposition object . . . . .	I-148
Compound preposition . . . . .	I-149
Gerund . . . . .	I-150
Relative conjunction . . . . .	I-151
Relative pronoun. . . . .	I-152
Infinity . . . . .	I-153
Arbitrary choice. . . . .	I-154
End of sentence . . . . .	I-155

Sentinels

End wipe . . . . .	I-156
Comma end wipe . . . . .	I-157
End-of-sentence end wipe . . . . .	I-158
(Right paren tester subroutine). . . . .	I-159
Right paren end wipe . . . . .	I-160
Comma end-wipe activator . . . . .	I-160
99-activator . . . . .	I-161

Summary of Prediction Span Indicators (PSI) used in Experimental Predictive  
Syntactic Analysis Program

- 00 The prediction must be fulfilled by the next word or not at all.
- 01 The prediction must be fulfilled during the analysis of the sentence.
- 02 The prediction can be fulfilled more than once and is not to be wiped when fulfilled.
- 03 The prediction may be fulfilled at any time but need not necessarily be fulfilled.
- 20-23 Mutually exclusive predictions (otherwise identical to 00-03 PSI).
- 49 Active compound prediction.
- 50-53, 70-73, 99 Inactive predictions (activated by activator sentinels).

Summary of Abbreviations

- PSI Prediction Span Indicator.
  - Cpd compound.
  - M.F. mutually exclusive.
  - CPx Character position ( $1 \leq x \leq 12$ )
- |   |   |   |   |   |   |   |   |   |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|----|----|----|
- FWx Machine word of analyzed 10-word item ( $0 \leq x \leq 9$ ).
  - TWx Machine word of unanalyzed 10-word item ( $0 \leq x \leq 9$ ).
  - GWx Grammar word (as kept in experimental program) ( $1 \leq x \leq 3$ ).

INITIAL PREDICTOR SUBROUTINE

Assembly Address: INITLA

Reference Information

Called in by the following predictor subroutines:

1. Program initializer.
2. End of sentence.

Action Taken

- |           |   |   |
|-----------|---|---|
| Predicts: | 1. Comma end-wipe activator.                      | 13. Subject.                            |
|           | 2. Gerund.  | 14. M.E. Left object<br>(instrumental). |
|           | 3. End wipe.                                      | 15. M.E. Left object<br>(accusative).   |
|           | 4. Relative conjunction.                          | 16. Predicate head.                     |
|           | 5. End wipe.                                      | 17. Indirect object.                    |
|           | 6. Relative pronoun.                              | 18. End of sentence.                    |
|           | 7. Subject (inactive).                            |   |
|           | 8. M.E. Left object<br>(instrumental) (inactive). |   |
|           | 9. M.E. Left object<br>(accusative) (inactive).   |   |
|           | 10. Predicate head (inactive).                    |   |
|           | 11. Indirect object (inactive).                   |   |
|           | 12. Comma end wipe (end clause<br>mode).          |   |

Other Action:

1. Store "IIC" in comma serial number.

Notes

Predictions 1-12 are made with serial number "IIC",  
others with "III".

---

## CLAUSER PREDICTOR SUBROUTINE

Assembly Address: CLASER

Reference Information

Characterized by (syntactic role mark):

1. "," in CPl of FW5 and "INF CLAUSER" in FW9.

Accepted by the following tester subroutines:

1. Infinity.

Action Taken

- Predicts:
1. Subject.
  2. M.E. Left object (instrumental).
  3. M.E. Left object (accusative).
  4. Predicate head.
  5. Indirect object.
  6. Comma end wipe (continue clause mode).

Other Action:

1. Before making predictions, wipe all predictions in pool with serial same as comma serial number.
  2. Store serial number of preferred argument in comma serial number.
-

COMMA PREDICTOR SUBROUTINE

Assembly Address: COMMAΔ

Reference Information

Characterized by (syntactic role mark):

1. ", " in CPl of FW5 and "INF COMMA" in FW9.

Accepted by the following tester subroutines:

1. Comparative Complement.
2. Infinity.

Action Taken

Predicts: 1. Comma end-wipe activator. 9. M.E. Left object  
2. Gerund. (accusative) (inactive).  
3. End wipe. 10. Predicate head (inactive).  
4. Relative conjunction. 11. Indirect object  
5. End wipe. (inactive).  
6. Relative pronoun. 12. Comma end wipe  
7. Subject (inactive). (end clause mode).  
8. M.E. Left object  
(instrumental) (inactive). -

Other Action:

1. Before making predictions, wipe all predictions in pool with serial same as Comma Serial Number.
  2. Store serial number of preferred argument in Comma Serial Number.
-

## NOUN PREDICTOR SUBROUTINE

Assembly Address: NOUNΔΔ

Reference Information

Characterized by (syntactic role mark):

1. "N" in CPl of FW5.
2. "PN" in CPl-2 of FW5.

Accepted by the following tester subroutines:

- |                       |                                   |
|-----------------------|-----------------------------------|
| (Cpd) 1. Subject.     | (Cpd) 7. Indirect object.         |
| 2. Master.            | (Cpd) 8. Agent.                   |
| 3. Numeral master.    | (Cpd) 9. Noun complement.         |
| (Cpd) 4. Modifier.    | (Cpd) 10. Preposition complement. |
| (Cpd) 5. Object.      | 11. Comparative complement.       |
| (Cpd) 6. Left object. | 12. Arbitrary choice.             |

Called in by the following predictor subroutines:

- |                       |                       |
|-----------------------|-----------------------|
| 1. Pronoun (nominal). | 2. Numeral (nominal). |
|-----------------------|-----------------------|

Action Taken

- |                               |                             |
|-------------------------------|-----------------------------|
| Predicts: 1. Noun complement. | 3. Objects, agent, and verb |
| 2. Modifier (inactive).       | master with 03 PSI as       |
|                               | directed by FW8.            |

Call to (if not master):

- |                           |                            |
|---------------------------|----------------------------|
| 1. Adjective-noun subject | 4. Left object.            |
| (identical with pronoun   | 5. Indirect object.        |
| subject).                 | 6. Agent.                  |
| 2. Modifier.              | 7. Noun complement.        |
| 3. Object.                | 8. Preposition complement. |
- 
-

PRONOUN PREDICTOR SUBROUTINE

Assembly Address: PPRONΔ

Reference Information

Characterized by (syntactic role mark):

1. "P" in CP1 of FW5.

Accepted by the following tester subroutines:

- |                       |                                   |
|-----------------------|-----------------------------------|
| (Cpd) 1. Subject.     | (Cpd) 7. Indirect object.         |
| 2. Master.            | (Cpd) 8. Agent.                   |
| 3. Numeral master.    | (Cpd) 9. Noun complement.         |
| (Cpd) 4. Modifier.    | (Cpd) 10. Preposition complement. |
| (Cpd) 5. Object.      | 11. Comparative complement.       |
| (Cpd) 6. Left object. | 12. Arbitrary choice.             |

Action Taken

Call to:

1. Noun if "N" in CP2 of FW5.
  2. Adjective if "A" in CP2 of FW5.
-

## ADJECTIVE PREDICTOR SUBROUTINE

Assembly Address: ADJAAA

Reference Information

Characterized by (syntactic role mark):

1. "A" in CP1 of FW5, also CP8, CP9, and CP10 of FW5 < 1.
2. "PA" in CP1-2 of FW5.

Accepted by the following tester subroutines:

- |                           |                                  |
|---------------------------|----------------------------------|
| (Cpd) 1. Subject.         | (Cpd) 7. Agent.                  |
| 2. Master.                | (Cpd) 8. Noun complement.        |
| (Cpd) 3. Modifier.        | (Cpd) 9. Preposition complement. |
| (Cpd) 4. Object.          | 10. Comparative complement.      |
| (Cpd) 5. Left object.     | 11. Arbitrary choice.            |
| (Cpd) 6. Indirect object. |                                  |

Called in by the following predictor subroutines:

1. Pronoun (adjectival).

Action Taken

- |                                 |              |
|---------------------------------|--------------|
| Predicts: 1. Objects, agent and | 2. End wipe. |
| verb master with                | 3. Master.   |
| 03 PSI as directed              | 4. End wipe. |
| by FW8.                         |              |

Call to (if not master):

1. Adjective-noun subject (identical with pronoun subject).
  2. Modifier.
  3. Object.
  4. Left object.
  5. Indirect object.
  6. Agent.
  7. Noun complement.
  8. Preposition complement.
- 
-

PARTICIPLE PREDICTOR SUBROUTINE

Assembly Address: PARTAA

Reference Information

Characterized by (syntactic role mark):

1. "A" in CP1 of FW5 and  $> 0$  in CP10, but not  $> 0$  in CP8 and CP9 of FW5.

Accepted by the following tester subroutines:

- |                           |                                  |
|---------------------------|----------------------------------|
| (Cpd) 1. Subject.         | (Cpd) 7. Agent.                  |
| 2. Master.                | (Cpd) 8. Noun complement.        |
| (Cpd) 3. Modifier.        | (Cpd) 9. Preposition complement. |
| (Cpd) 4. Object.          | 10. Negative.                    |
| (Cpd) 5. Left object.     | 11. Arbitrary choice.            |
| (Cpd) 6. Indirect object. |                                  |

Action Taken

- Predicts:
1. Objects (unless instrumental) as directed by FW8. If "N" in CP10 of FW8 and accusative object predicted, predict instead combined genitive-accusative object.
  2. End wipe.
  3. Verb master. If "N" in CP10 of FW8, put "N" in CP1 of GW1.
  4. Object (instrumental) and agent as directed by FW8.
  5. End wipe.
  6. Master (PSI = 03) unless fulfilled verb complement.
  7. End wipe.

Call to:

- |   |                            |
|---|----------------------------|
| 1. Adjective-noun subject (identical with Pronoun subject). |                            |
| 2. Modifier.  |                            |
| 3. Object.  |                            |
| 4. Left object.   | 7. Noun complement.        |
| 5. Indirect object.   | 8. Preposition complement. |
| 6. Agent.   | 9. Verb complement.        |

Notes

Participle not accepted by verb complement (Cpd) at this time although it can "call to" verb complement.

Should be accepted by comparative complement.

---

---

## VERB PREDICTOR SUBROUTINE

Assembly Address: VERBΔΔ

Reference Information

Characterized by (syntactic role mark):

1. "V" in CP1 of FW5.

Accepted by the following tester subroutines:

- |       |                               |                      |
|-------|-------------------------------|----------------------|
| (Cpd) | 1. Subject.                   | 5. Negative.         |
| (Cpd) | 2. Predicate head.            | 6. Gerund.           |
| (Cpd) | 3. Infinitive predicate head. | 7. Arbitrary choice. |
| (Cpd) | 4. Verb master.               |                      |

Action Taken

- Predicts:
1. Preposition object (with government coding).
  2. Object as directed by CP5-8 of FW5 (unless instrumental).  
If preferred argument is predicate head and left object has been found, do not predict object of case of left object. If "N" in CP10 of FW8 and accusative object predicted, predict instead combined genitive-accusative object.
  3. End wipe.
  4. Verb master (if "N" in CP10 of FW8, put "N" in CP1 of GW1).
  5. Object (instrumental) and agent as directed by CP5-8 of FW5, unless preferred argument is predicate head and instrumental left object has been found.

Other Action:

1. If "3" in CP12 of FW5, go to BYT' (быть) without making any predictions.

Call to:

- |                               |                 |
|-------------------------------|-----------------|
| 1. Verb subject.              | 4. Verb master. |
| 2. Verb predicate head.       | 5. Gerund.      |
| 3. Infinitive predicate head. |                 |
- 
-

ADVERB PREDICTOR SUBROUTINE

Assembly Address: ADVAAA

Reference Information

Characterized by (syntactic role mark):

1. "H" in CP1 of FW5 and not NE (he).
2. "A" in CP1 of FW5 and 2 or 3 in CP9 of FW5 and not > 0 in CP10 of FW5.
3. "A" in CP1 of FW5 and 1 in CP8 of FW5.

Accepted by the following tester subroutines:

1. Infinity.

Action Taken

- Predicts:
1. Comparative complement, if CP8 of FW5 > 0.
  2. Objects, agent and verb master as directed by FW8.
  3. End wipe.

Other Action:

1. If neither predictions are made under 1 and 2, go to continue to avoid wiping the prediction pool.
-

## NEGATIVE PREDICTOR SUBROUTINE

Assembly Address: NEGAAA

Reference Information

Characterized by (syntactic role mark):

1. NE (he) as text word.

Accepted by the following tester subroutines:

1. Infinity.

Action Taken

Predicts: 1. Negative.

## NEGATED ADVERB PREDICTOR SUBROUTINE

Assembly Address: NEGADV

Reference Information

Characterized by (syntactic role mark):

1. "H" in CP1 of FW5.
2. "A" in CP1 of FW5 and 2 or 3 in CP9 of FW5 and not > 0 in CP10 of FW5.
3. "A" in CP1 of FW5 and 1 in CP8 of FW5.

Accepted by the following tester subroutines:

1. Negative.

Action Taken

Predicts: 1. Comparative complement if CP8 of FW5 &gt; 0.

NUMERAL PREDICTOR SUBROUTINE

Assembly Address: NUMAAA

Reference Information

Characterized by (syntactic role mark):

1. "D" in CP1 of FW5.

Accepted by the following tester subroutines:

- |                           |                                  |
|---------------------------|----------------------------------|
| (Cpd) 1. Subject.         | (Cpd) 8. Noun complement.        |
| 2. Master.                | (Cpd) 9. Preposition complement. |
| (Cpd) 3. Modifier.        | 10. Chain numeral.               |
| (Cpd) 4. Object.          | 11. Comparative complement.      |
| (Cpd) 5. Left object.     | 12. Infinity (if nominative).    |
| (Cpd) 6. Indirect object. | 13. Arbitrary choice.            |
| (Cpd) 7. Agent.           |                                  |

Action Taken

- Predicts:
1. M.E. Chain numeral.
  2. M.E. Numeral master according to following conditions  
(if "A" in CP2 of FW5):
    - (a) if "RZV" or if no intersection between FW6 and FW8, put FW8 in GW1.
    - (b) if intersection, put intersection in GW1; if genitive, predict both singular and plural.
  3. End wipe.

Call to:

1. If "A" in CP2 of FW5 and not numeral master.
    - (a) Adjective-noun subject  
(identical to pronoun subject).
    - (b) Modifier.
    - (c) Object.
    - (d) Left object.
    - (e) Indirect object.
    - (f) Agent.
    - (g) Noun complement.
    - (h) Preposition complement.
  2. If "N" in CP2 of FW5, go to noun.
-

## NUMERAL MASTER PREDICTOR SUBROUTINE

Assembly Address: NUMAST

Reference Information

Characterized by (syntactic role mark):

1. "A" in CP1 of FW5 and CP9 of FW5 < 1.
2. "PA" in CP1-2 of FW5.

Accepted by the following tester subroutines:

1. Numeral master.

Action Taken

Predicts: 1. Numeral master.

- (a) If "R" in CP2 of GW1, predict "R" in CP2 of GW1 and "Z" in positions corresponding to intersections.
- (b) If not "R" in CP2 of GW1, predict normal intersections.

## PREPOSITION PREDICTOR SUBROUTINE

Assembly Address: PREPΔΔ

Reference Information

Characterized by (syntactic role mark):

1. "R" in CP1 of FW5.

Accepted by the following tester subroutines:

1. Compound preposition.
2. Infinity.

Called in by the following predictor subroutines:

1. Preposition object.

Action Taken

- Predicts: 1. Preposition complement.                      3. End wipe.  
          2. Compound preposition.

GERUND PREDICTOR SUBROUTINE

Assembly Address: GERNAΔ

Reference Information

Characterized by (syntactic role mark):

1. "V" in CPl of FW5 and "G" in CP9 of FW6.

Called in by the following predictor subroutines:

1. Verb.
2. BYT' (бyт)

Action Taken

Predicts: 1. Compound gerund. 2. End wipe.

---

INFINITE CONJUNCTION PREDICTOR SUBROUTINE

Assembly Address: CONJXΔ

Reference Information

Characterized by (syntactic role mark):

1. I (и), ИЛИ (или), A (а), or NO (но).
2. "," in CPl of FW5 and "INF CONJ" in FW9.

Accepted by the following tester subroutines:

1. Infinity.

Called in by the following predictor subroutines:

1. CHEM (чeм).

Action Taken

Predicts: 1. 99-Activator.

Notes

Comma should not fulfill INF CONJ.

Put mark in FW5 for all INF CONJ.

---

## RELATIVE CONJUNCTION PREDICTOR SUBROUTINE

Assembly Address: RCNJTA

Reference Information

Characterized by (syntactic role mark):

1. "C" in CPl of FW5.

If I (и), ИЛИ (или), A (а), or NO (но), check prediction pool for unfulfilled subject, left object, and predicate head predictions. Accept only if none found.

Accepted by the following tester subroutines:

1. Relative conjunction.

Action Taken

Predicts: 1. If ЕСЛИ (если) or ЧТОБЫ (чтобы) as text word, infinitive predicate head.

Other Action:

1. Activate all inactive predictions ( $50 \leq \text{PSI} \leq 98$ ). Update serial number upon activating. Also update serial number of top comma end wipe in pool.

Notes

Should also check for objects of predicate head that must be fulfilled. Cannot do this now.

---

CHEM ( uem) PREDICTOR SUBROUTINE

Assembly Address: CHEM^^

Reference Information

Characterized by (syntactic role mark):

1. CHEM ( uem) as text word and "C" in CP1 of FW5

Accepted by the following tester subroutines:

1. Comparative complement.

Action Taken

Predicts: 1. Object, if comparative complement predicted by adjective predicate head.

Call to:

1. Infinite conjunction, if comparative complement predicted by adverb.

---

MODIFIER PREDICTOR SUBROUTINE

Assembly Address: MOD^^^

Reference Information

Characterized by (syntactic role mark):

1. iiimODIFIERi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

Predicts: 1. Compound modifier (in same case and number).  
2. End wipe.  
3. Comma end wipe in continue clause mode.

---

## OBJECT PREDICTOR SUBROUTINE

Assembly Address: OBJAAA

Reference Information

Characterized by (syntactic role mark):

1. iiiiiOBJECTi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

- Predicts:
1. Compound object with same case(s) as object.
  2. End wipe.

Notes

This predictor routine also takes care of the following other predictor routines:

- (a) Left object.
  - (b) Indirect object.
  - (c) Agent.
  - (d) Noun complement.
  - (e) Preposition complement.
- 
-

LEFT OBJECT PREDICTOR SUBROUTINE

Assembly Address: LOBJTA

Reference Information

Characterized by (syntactic role mark):

1. iiiiiLΔOBJΔi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

Predicts: 1. Compound left object with same case(s) as  
left object.

2. End wipe.

Other Action:

1. Put case in CP2 of GW2 of predicate  
head prediction.

Notes

Same as object predictor.

---

## INDIRECT OBJECT PREDICTOR SUBROUTINE

Assembly Address: INDOBJ

Reference Information

Characterized by (syntactic role mark):

1. iiiiiINDΔOBJi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

Predicts: 1. Compound indirect object. 2. End wipe.

NotesSame as object predictor.

## AGENT PREDICTOR SUBROUTINE

Assembly Address: AGTΔΔΔ

Reference Information

Characterized by (syntactic role mark):

1. iiiiiAGENTΔi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

Predicts: 1. Compound agent. 2. End wipe.

NotesSame as object predictor.

NOUN COMPLEMENT PREDICTOR SUBROUTINE

Assembly Address: NCOMPT

Reference Information

Characterized by (syntactic role mark):

1. iiiiiNΔCOMPi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

- Predicts: 1. Compound noun complement.  
2. End wipe.

Notes

Same as object predictor.

---

PREPOSITION COMPLEMENT PREDICTOR SUBROUTINE

Assembly Address: RCOMPT

Reference Information

Characterized by (syntactic role mark):

1. iiiiiRΔCOMPi in FW9.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Participle. |
| 2. Adjective. | 4. Numeral.    |

Action Taken

- Predicts: 1. Compound preposition complement in same case as  
preposition complement.  
2. End wipe.

Notes

Same as object predictor.

---

## ADJECTIVE-NOUN SUBJECT PREDICTOR SUBROUTINE

Assembly Address: ANSUBA

Reference Information

Characterized by (syntactic role mark):

1. iiiiiSUBJECT1 in FW9 and neither "V" in CPL of FW5 nor "PN" in CPL-2 of FW5.

Called in by the following predictor subroutines:

- |               |                |
|---------------|----------------|
| 1. Noun.      | 3. Numeral.    |
| 2. Adjective. | 4. Participle. |

Action Taken

- Predicts:
1. Compound subject with any person, number and gender.
  2. End wipe.

Other Action:

1. Modify predicate head prediction (if it has not been fulfilled) to 3rd person, and to number and gender of preferred argument. Put > 0 in CP3 of GW2.
  2. If compound subject, modify predicate head prediction to 3rd person plural any gender.
- 
-

PRONOUN SUBJECT PREDICTOR SUBROUTINE

Assembly Address: PSUBAA

Reference Information

Characterized by (syntactic role mark):

1. iiiiiSUBJCTi in FW9 and "PN" in CP1-2 of FW5.

Called in by the following predictor subroutines:

1. Noun.

Action Taken

- Predicts:
1. Compound subject with any person, number and gender.
  2. End wipe.

Other Action:

1. Modify predicate head (if it has not been fulfilled) as to person, number and gender of pronoun and put > 0 in CP3 of GW2.
2. If compound subject, modify to 3rd person plural, any gender.

Notes

This has been merged with adjective-noun subject.

---

## VERB SUBJECT PREDICTOR SUBROUTINE

Assembly Address: VSUBAA

Reference Information

Characterized by (syntactic role mark):

1. iiiiiSUBJECTi in FW9 and "V" in CP1 of FW5.

Called in by the following predictor subroutines:

1. Verb
2. BYT' (быть)

Action Taken

- Predicts: 1. Compound subject (verb infinitive only:  
CP2 of GW2 = 1).  
2. End wipe.

Other Action:

1. Modifies predicate head (if it has not been fulfilled) to 3rd person, neuter, singular, and puts > 0 in CP3 of GW2.

## VERB PREDICATE HEAD PREDICTOR SUBROUTINE

Assembly Address: VPREDH

Reference Information

Characterized by (syntactic role mark):

1. iiiiiVAPREDA in FW9.

Called in by the following predictor subroutines:

1. Verb
2. BYT' (быть)

Action Taken

- Predicts: 1. Compound predicate head with same person, number and gender.

Other Action:

1. If predicate head is 1st person, modify PSI of subject to 03.
2. Modifies subject (if it has not been fulfilled) as to person, number and gender, and puts > 0 into CP3 of GW2.
3. Erases left object predictions if they have not been fulfilled.

ADJECTIVE PREDICATE HEAD PREDICTOR SUBROUTINE

Assembly Address: APREDH

Reference Information

Characterized by (syntactic role mark):

1. "A" in CP1 of FW5 and 1 or 2 in CP9 of FW5.
2. "X" in CP1 of FW5.

Accepted by the following tester subroutines:

1. Predicate head.
- (Cpd) 2. Verb complement.

Action Taken

- Predicts:
1. Comparative complement, if CP8 of FW5  $> 0$ .
  2. Objects, agent and verb master with 03 PSI as directed by FW8, if CP8 of FW5  $\leq 0$  and left object not fulfilled.
  3. Verb master.\*
  4. Compound predicate head with same person, number, and gender.

Other Action:

1. Wipe left object predictions if not yet fulfilled.
2. If CP1 of FW5 is "X", wipe subject prediction with same serial number as in CP1-3 of FW9.
3. If CP1 of FW5 is "A", modify subject prediction to any person and to number and gender of preferred argument and put  $> 0$  into CP3 of GW2.

Notes

- \*If predict verb master due to "P9" code in number 2 above, must inhibit prediction of 3 above.
- 
-

## BYT' (6yTb) PREDICTOR SUBROUTINE

Assembly Address: BYTAAA

Reference Information

Characterized by (syntactic role mark):

1. "V" in CP1 of FW5 and "3" in CP12 of FW5.

Called in by the following predictor subroutines:

1. Verb

Action Taken

- Predicts:
1. M.E. Verb master (if "N" in CP10 of FW8, put "N" in CP1 of GW1).
  2. M.E. Object (nominative-instrumental combined) (if left object found, don't predict object).
  3. M.E. Verb complement (predict any number and gender if have gerund or infinitive).

Call to:

1. Verb subject.
  2. Verb predicate head.
  3. Infinitive predicate head.
  4. Verb master.
  5. Gerund.
-

INFINITIVE PREDICATE HEAD PREDICTOR SUBROUTINE

Assembly Address: IPREDT

Reference Information

Characterized by (syntactic role mark):

1. iiiiIAPREDΔΔ in FW9.

Called in by the following predictor subroutines:

1. Verb
2. BYT' (быть)

Action Taken

- Predicts:
1. Compound infinitive predicate head.
  2. End wipe.
- 

VERB COMPLEMENT PREDICTOR SUBROUTINE

Assembly Address: VCOMPT

Reference Information

Characterized by (syntactic role mark):

1. iiiiIVΔCOMPA in FW9.

Called in by the following predictor subroutines:

1. Participle

Action Taken

- Predicts:
1. Compound verb complement (with same number and gender).
  2. End wipe.
-

## VERB MASTER PREDICTOR SUBROUTINE

Assembly Address: VMASTT

Reference Information

Characterized by (syntactic role mark):

1. iiiiiVMASTA in FW9.

Called in by the following predictor subroutines:

1. Verb
2. BYT' ( 6ytr)

Action Taken

Predicts: 1. Compound verb master.

---

---

PREPOSITION OBJECT PREDICTOR SUBROUTINE

Assembly Address: ROBJTA

Reference Information

Characterized by (syntactic role mark):

1. "R" in CPl of FW5, the identical preposition, and agreement with government code.

Accepted by the following tester subroutines:

1. Preposition object.

Action Taken

Call to:

1. Preposition.

NotesSame as preposition routine.

---

---

\$---\$ PREDICTOR SUBROUTINE

Assembly Address: DOLLAR

Reference Information

Characterized by (syntactic role mark):

1. "\$" in CP1 of FW2.

Accepted by the following tester subroutines:

1. Infinity.

Action Taken

Other Action:

1. Go to continue to avoid wiping the prediction pool.
- 

LEFT PAREN PREDICTOR SUBROUTINE

Assembly Address: LPAREN

Reference Information

Characterized by (syntactic role mark):

1. "\*" as input text word.

Accepted by the following tester subroutines:

1. Infinity.

Action Taken

Predicts: 1. Right paren end wipe.

---

## END-OF-SENTENCE PREDICTOR SUBROUTINE

Assembly Address: ECSTAA

Reference Information

Characterized by (syntactic role mark):

1. "." in CPl of FW5.
2. ";" in CPl of FW5.
3. ":" in CPl of FW5.

Accepted by the following tester subroutines:

1. End of sentence.

Action Taken

Other Action:

1. Wipe prediction pool completely.
2. Set chain number to 00.
3. Put 3 space blockettes in hindsight and final choice tapes.

Call to:

1. Initial.
-

SUBJECT TESTER SUBROUTINE

PSI = 01

ABS, 000012, 00, SUBJAA

Compound PSI = 99

ABS, 000992, 00, CSUBJE

Reference Information

Predicted by:

1. Initial (active and inactive).
2. Comma (inactive).
3. Clauser.

Modified by:

1. Verb predicate head.
2. Adjective predicate head.

Reference Information

Predicted by:

1. Adjective-noun subject.
2. Pronoun subject.
3. Verb subject.

Testing Criteria

Fulfilled by:

- |   |   |  |
|---|---|--|
| <ol style="list-style-type: none"><li>1. Noun.</li><li>2. Adjective.</li><li>3. Participle.</li><li>4. Numeral.</li></ol> | } | <p>if prediction<br/>is in 3rd<br/>person.</p> |
|---|---|--|

5. Pronoun, if prediction matches in person.
6. Verb (infinitive), if prediction is 3rd person, singular, neuter.

Grammatical Information required:

1. GW1: Nominative and number.
2. GW2: CP1: Gender. CP2: Subject must be verb if > 0.  
CP3: Predicate head fulfilled if > 0. CP4: Person.

Syntactic Role Mark

△△SUBJCT△

Syntactic Role Mark

△CSUBJCT△

---

## PREDICATE HEAD TESTER SUBROUTINE

PSI = 01

Compound PSI = 99

ABS, 000912, 00, PREDAA

ABS, 000992, 00, CPREDA

Reference Information

Predicted by:

1. Initial (both active and inactive).
2. Comma (inactive).
3. Clauser.

Modified by:

1. Adjective-noun subject.
2. Pronoun subject.
3. Verb subject.
4. Left object.

Reference Information

Predicted by:

1. Verb predicate head.
2. Adjective predicate head.

Testing Criteria

Fulfilled by:

1. Verb (indicative).
2. Adjective predicate head (if CP2 of GW2 < 1).

Grammatical information required:

1. GW1: Nominative and number.
2. GW2: CP1: Gender. CP2: Left object found if > 0 and case given by CP2. CP3: Subject fulfilled if > 0. CP4: Person.

Syntactic Role Mark

AAVAPREDA

AAAAPREDA

Syntactic Role Mark

ACVAPREDA

ACAAPREDA

INFINITIVE PREDICATE HEAD TESTER SUBROUTINE

PSI = 00

Compound PSI = 99

ABS, 000000, 00, IPREDΔ

ABS, 000990, 00, CIPRED

Reference Information

Predicted by:

1. Relative conjunction.  
(ESLI (если) and  
CHTOBY (чтобы) only).

Reference Information

Predicted by:

1. Infinitive predicate  
head.

Testing Criteria

Fulfilled by:

1. Verb (infinitive).

Immediate Action

Wipe all predictions down to, but not including, top comma end wipe.

Syntactic Role Mark

ΔIΔPREDΔΔ

Syntactic Role Mark

CIΔPREDΔΔ

## MASTER TESTER SUBROUTINE

PSI = 01

ABS, 000012, 00, MASTAA

Reference Information

Predicted by:

1. Adjective.
2. Participle.

Testing Criteria

Fulfilled by:

1. Adjective.
2. Noun.
3. Pronoun.
4. Numeral.
5. Participle.

Grammatical information required:

1. GW1: Case and number.
2. GW2: Gender.
3. GW3: Mark of word making prediction.

Syntactic Role Mark

xxxxxxxxM

(x-x = mark of word predicting master)

Notes

Master preferred argument should override object or agent preferred argument from word with same text serial number. (This test made in override.)

---

NUMERAL MASTER TESTER SUBROUTINE

PSI = 01

ABS, 000012, 00, NMASTA

Reference Information

Predicted by:

1. Numeral.
2. Numeral master.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun (nominal).
3. Numeral master.

Grammatical information required:

1. GW1: "RZV" or case and number.
2. GW2: Mark of word making prediction.

Syntactic Role Mark

xxxxxxxxN

(x-x = mark of word predicting numeral master)

Notes

If "R" in CP2 of GW1, both 1 and 2 must be genitive singular and 3 fulfills non-R case and number. Otherwise, look for normal intersection.

---

## VERB MASTER TESTER SUBROUTINE

PSI = 03

Compound PSI = 99

ABS, 000031, 00, VMASTA

ABS, 000991, 00, CVMAST

Reference Information

Predicted by:

1. Noun.
2. Adjective.
3. Participle.
4. Verb
5. Adverb
6. Adjective predicate head.
7. BYT' (бѣтѣ).

Reference Information

Predicted by:

1. Verb master.

Testing Criteria

Fulfilled by:

1. Verb (infinitive).

Grammatical information required:

1. GW1: CPl: "N" if negated.

Immediate Action

If "N" in CPl of GW1, put "N" in CPl0 of FW8.

Syntactic Role Mark

△△V△MASTA△

Syntactic Role Mark

△CV△MASTA△

VERB COMPLEMENT TESTER SUBROUTINE

PSI = 03

ABS, 000031, 00, VCOMPΔ

Compound PSI = 99

ABS, 000991, 00, CVCOMP

Reference Information

Predicted by:

1. BYT: (быть).

Reference Information

Predicted by:

1. Verb complement.

Testing Criteria

Fulfilled by:

1. Adjective with 1 or 2  
in CP9 of FW5.

Grammatical information required:

1. GW1: CP1: Gender, CP2: Number.

Syntactic Role Mark

ΔΔVΔCOMPΔ

Syntactic Role Mark

ΔCVΔCOMPΔ

Notes

Presently go to participle predictor. Should go directly  
to verb complement predictor.

---

## MODIFIER TESTER SUBROUTINE

PSI = 50

ABS, 000501, CO, MODIFA

Compound PSI = 99

ABS, 000992, 00, CMODIF

Reference Information

Predicted by:

1. Noun.

Modified by:

1. Activated by comma end-wipe activator.

Reference Information

Predicted by:

1. Modifier.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: Case and number.

Syntactic Role Mark

ΔMODIFERA

Syntactic Role Mark

CMODIFERA

OBJECT TESTER SUBROUTINE

PSI = 01

Compound PSI = 99

ABS, 000012, 00, OBJECT

ABS, 000992, 00, COBJCT

Reference Information

Predicted by:

1. Noun.
2. Adjective.
3. Participle.
4. Verb.
5. Adverb.
6. CHEM (чeм).
7. Adjective predicate head.
8. BYT' (быть).

Reference Information

Predicted by:

1. Object.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: Case and Number.
2. GW2: "△△△△OBJECT△"

Syntactic Role Mark

△△OBJECT△

Syntactic Role Mark

△COBJECT△

Notes

This tester routine also takes care of the following testers:

- |                      |                             |
|----------------------|-----------------------------|
| (a) Left object.     | (d) Noun complement.        |
| (b) Indirect object. | (e) Preposition complement. |
| (c) Agent.           |                             |
-

## LEFT OBJECT TESTER SUBROUTINE

PSI = 03

Compound PSI = 99

ABS, 000032, 00, LOBJEA

ABS, 000992, 00, CLOBJE

Reference Information

Predicted by:

1. Initial (active and inactive).
2. Comma (inactive).
3. Clauser

Modified by:

1. Wiped by verb predicate head.
2. Wiped by adjective predicate head.

Reference Information

Predicted by:

1. Left object.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical Information required:

1. GW1: "00A000 00A000" or "0000IO 0000IO"
2. GW2: "AAAAAL AOBJA"

Syntactic Role Mark

AALAOBJA

Syntactic Role Mark

ACLAOBJA

NotesSame as object tester.

INDIRECT OBJECT TESTER SUBROUTINE

PSI = 03

ABS, 000032, 00, INDOBA

Compound PSI = 99

ABS, 000992, 00, CINDOB

Reference Information

Predicted by:

1. Initial (active and inactive).
2. Comma (inactive).
3. Clauser.

Reference Information

Predicted by:

1. Indirect object.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: "000C00 000C00"
2. GW2: "ΔΔΔΔIN DΔOBJΔ"

Syntactic Role Mark

ΔINDΔOBJΔ

Syntactic Role Mark

CINDΔOBJΔ

Notes

Same as object tester.

---

## AGENT TESTER SUBROUTINE

PSI = 03

Compound PSI = 99

ABS, 000032, 00, AGENTA

ABS, 000992, 00, CAGENT

Reference Information

Predicted by:

1. Noun.
2. Adjective.
3. Participle.
4. Verb.
5. Adverb.

Reference Information

Predicted by:

1. Agent.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: Case and number.
2. GW2: "^^^^^AGENT^^"

Syntactic Role Mark

^^AGENT^^

Syntactic Role Mark

^CAGENT^^

NotesSame as object tester.

NOUN COMPLEMENT TESTER SUBROUTINE

PSI = 00

Compound PSI = 99

ABS, 000002, 00, NCCMPA

ABS, 000992, 00, CNCOMP

Reference Information

Predicted by:

1. Noun.

Reference Information

Predicted by:

1. Noun complement.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: "OG0000 OG0000"
2. GW2: "ΔΔΔΔΔN ΔCOMPA"

Syntactic Role Mark

ΔΔNΔCOMPA

Syntactic Role Mark

ΔCNΔCOMPA

Notes

Same as object tester.

---

## PREPOSITION COMPLEMENT TESTER SUBROUTINE

PSI = 01

Compound PSI = 99

ABS, 000012, 00, RCOMPΔ

ABS, 000992, 00, CRCOMP

Reference Information

Predicted by:

1. Preposition.

Reference Information

Predicted by:

1. Preposition complement.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle.
5. Numeral.

Grammatical information required:

1. GW1: Case and number.
2. GW2: "ΔΔΔΔΔRΔCOMPΔ".

Syntactic Role Mark

ΔΔRΔCOMPΔ

Syntactic Role Mark

ΔCRΔCOMPΔ

NotesSame as object tester.

CHAIN NUMERAL TESTER SUBROUTINE

PSI = 00

ABS, 000003, 00, CHNNUM

Reference Information

Predicted by:

1. Numeral.

Testing Criteria

Fulfilled by:

1. Numeral.

Grammatical information required:

1. GW1: Case and number.
2. GW2: Gender.
3. GW3: Mark of work making prediction.

Syntactic Role Mark

xxxxxxxxN

(x-x = mark of word predicting chain numeral)

---

## NEGATIVE TESTER SUBROUTINE

PSI = 00

ABS, 000000, 00, NEGTV

Reference Information

Predicted by:

1. Negative.

Testing Criteria

Fulfilled by:

1. Verb.
2. Participle.
3. Negated adverb.

Immediate Action

1. If fulfilled by 1 or 2:
  - (a) Put "N" in CP10 of FW8.
  - (b) Do not call to success.
  - (c) Don't make mark.

Syntactic Role Mark

INFΔADVBAΔΔΔΔ

---

COMPARATIVE COMPLEMENT TESTER SUBROUTINE

PSI = 01

ABS, 000011, 00, CMPCMP

Reference Information

Predicted by:

1. Adverb.
2. Negated adverb.
3. Adjective predicate head.

Testing Criteria

Fulfilled by:

- |   |   |                   |
|---|---|-------------------|
| <ol style="list-style-type: none"><li>1. Noun.</li><li>2. Pronoun (adjectival).</li><li>3. Adjective.</li><li>4. Numeral.</li><li>5. CHEM (chem).</li><li>6. Comma.</li></ol> | } | must be genitive. |
|---|---|-------------------|

Grammatical information required:

1. GW1: "A00000 000000" if predicted by adverb or  
negated adverb.  
"P00000 000000" if predicted by adjective predicate head.

Syntactic Role Mark

ΔCMPΔCMPΔ

Notes

Must eliminate comma fulfillment.

---

---

## PREPOSITION OBJECT TESTER SUBROUTINE

PSI = 00

ABS, 000001, CC, ROBJEA

Reference Information

Predicted by:

1. Verb.

Testing Criteria

Fulfilled by:

1. Preposition object.

Grammatical information required:

1. GW1: Preposition government code in CPL-2  
(e.g., E1, H6, etc.).

Syntactic Role Mark

ΔRΔOBJΔΔΔ

Notes

1. Compounding not taken into account.
  2. A table of prepositions and codes is stored in the program,  
one machine word per preposition and code: CCPPPPPPPPN.  
CC-Government code. N-case of governed preposition.  
PPPPPPPP-X-lit of preposition with delta fill.
- 
-

COMPOUND PREPOSITION TESTER SUBROUTINE

Compound PSI = 99

ABS, 000991, 00, CPREPA

Reference Information

Predicted by:

1. Preposition.

Testing Criteria

Fulfilled by:

1. Preposition (that is identical).

Grammatical information required:

1. GW1: Preposition (x-lit).

Syntactic Role Mark

CAPREFAAA

---

## GERUND TESTER SUBROUTINE

PSI = 03

ABS, 000030, 00, GERUND

Compound PSI = 99

ABS, 000990, 00, CGERUNΔ

Reference Information

Predicted by:

1. Initial.
2. Comma.

Reference Information

Predicted by:

1. Gerund.

Testing Criteria

Fulfilled by:

1. Verb (gerund).

Syntactic Role Mark

ΔGERUNDΔΔ

Syntactic Role Mark

CGERUNDΔΔ

---

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RELATIVE CONJUNCTION TESTER SUBROUTINE

PSI = 03

ABS, 000030, 00, RCONJA

Reference Information

Predicted by:

1. Initial.
2. Comma

Testing Criteria

Fulfilled by:

1. Relative conjunction.

Syntactic Role Mark

KARACONJA

---

## RELATIVE PRONOUN TESTER SUBROUTINE

PSI = 03

ABS, 000030, 00, RPRONA

Reference Information

Predicted by:

1. Initial.
2. Comma.

Testing Criteria

Fulfilled by:

1. Relative pronoun.\*

Immediate Action

Whether or not there has been a previous success, upon fulfillment, the routine activates all predictions in the pool with  $50 \leq \text{PSI} \leq 98$ , changing serial number. This tester never calls to the success control routine, and continues as if there had been no success. Change serial of top comma end wipe in pool to serial in T4. Set "K" extractor subroutine.

Notes

\*A relative pronoun is characterized by:

- (a) "P" in CP1 of OW and
  - (b) "R" in CP8 of OW.
-

INFINITY TESTER SUBROUTINE

Assembly Address: INFINT

Reference Information

Called in by:

1. End of sentence.
2. End wipe.
3. Comma end wipe.
4. Right paren end wipe.
5. Comma end-wipe activator.
6. 99-activator.

Testing Criteria

Fulfilled by:

- |              |                             |
|--------------|-----------------------------|
| 1. Comma.    | 5. Numeral (nominative with |
| 2. Clauser.  | "C" in CPL2 of FW5).        |
| 3. Adverb.   | 6. Preposition.             |
| 4. Negative. | 7. Infinite conjunction.    |
|              | 8. Dollar sign.             |
|              | 9. Left paren.              |

Syntactic Role Mark (respectively)

1. INF^COMMA^AAA
  2. INF^CLAUSER^
  3. INF^ADVB^AAA
  4. INF^NEGATIVE
  5. INF^NUMERAL^
  6. INF^PREP^AAA
  7. INF^CONJUNCT^
  8. INF^\$\$\$^AAA
  9. INF^L^PAREN^
- 
-

## ARBITRARY CHOICE TESTER SUBROUTINE

Assembly Address: ARBTRA

Reference Information

Called in by:

1. End-of-sentence end wipe.

Testing Criteria

Fulfilled by:

1. Noun.
2. Pronoun.
3. Adjective.
4. Participle
5. Verb.
6. Numeral.
7. and others not accepted by infinity or other predictions.

Syntactic Role Mark

△△ARBTRA△△

Notes

1. This tester can be fulfilled only if there are no previous "success".
  2. If fulfilled, increase chain number by 1.
  3. Go to prediction generating control whether or not fulfilled.
- 
-

END-OF-SENTENCE TESTER SUBROUTINE

PSI = 01

ABS, 000010, 00, EOSEAA

Reference Information

Predicted by:

1. Initial.

Called in by:

1. Right paren end wipe.
2. Comma end wipe (continue clause mode).

Testing Criteria

Fulfilled by:

1. End of sentence.

Immediate Action

When testing is finished, go to infinity and then transfer to end of sentence end wipe.

Syntactic Role Mark

ENDΔOFΔSENT.

---

## END-WIPE SENTINEL SUBROUTINE

ABS, 000020 00, ENDWPE

Reference Information

## Predicted by:

- |                    |                                |
|--------------------|--------------------------------|
| 1. Initial (2).    | 11. Object.                    |
| 2. Comma (2).      | 12. Left object.               |
| 3. Adjective (2).  | 13. Indirect object.           |
| 4. Participle (3). | 14. Agent.                     |
| 5. Verb.           | 15. Noun complement.           |
| 6. Adverb.         | 16. Preposition complement.    |
| 7. Numeral.        | 17. Adjective-noun subject.    |
| 8. Preposition.    | 18. Verb subject.              |
| 9. Gerund.         | 19. Infinitive predicate head. |
| 10. Modifier.      | 20. Verb complement.           |

## Called in by:

1. Comma end wipe (either if in end clause mode or if have "\*").

Immediate Action

1. Perform infinity tester.
  2. If no success, wipe everything preceding in the pool including itself, and then continue with testing. Write all wiped 01 PSI predictions on hindsight tape with grammatical information.
-

COMMA END-WIPE SENTINEL SUBROUTINE

ABS, 000021 00, CEWAAA

Reference Information

Predicted by:

1. Initial (in end clause mode).
2. Clauser (in continue clause mode).
3. Comma (in end clause mode).
4. Modifier (in continue clause mode).

Modified by:

1. End-of-sentence end wipe.
2. Comma end-wipe activator.
3. Program executive routine.

Testing Criteria

Grammatical information required:

1. GW1: "ENDΔCLAUSEΔΔ" or "CONT.CLAUSE"

Immediate Action

1. Perform infinity tester.
  2. If in end clause mode or this item is a "\*" ), transfer to end wipe.
  3. If in continue clause mode, transfer to end of sentence.
-

## END-OF-SENTENCE END-WIPE SENTINEL SUBROUTINE

ABS, 000020,00, ESEWAA

Reference Information

Called in by:

1. End of sentence (via infinity).

Immediate Action

1. Set all comma end-wipe sentinels to continue clause mode.
  2. (a) If came from comma end wipe and there was no success, wipe all predictions before and including comma end wipe. Go to arbitrary choice.  
(b) If came from end of sentence, wipe entire pool except end of sentence. Go to arbitrary choice.  
(c) If came from comma end wipe and there was a success, return to executive routine control.
-

RIGHT PAREN TESTER SUBROUTINE

PSI = 01

ABS, 000020, 00, RPEWAA

Reference Information

Predicted by:

1. Left paren.

Testing Criteria

Fulfilled by:

1. "\*" as text word.

Immediate Action

1. If not fulfilled, go to right paren end wipe.
2. If fulfilled, wipe this and all previous predictions.

Syntactic Role Mark

ARAPARENA

Notes

This tester together with right paren end wipe are one program routine. Present PSI of combined routine is 02.

---

## RIGHT PAREN END-WIPE SENTINEL SUBROUTINE

ABS, 000020,00, RPEW△△

Reference Information

Called in by:

1. Right paren.

Immediate Action

1. Perform infinity tester.
2. Go to end of sentence tester.

Notes

This sentinel together with right paren tester are one program routine.

---

## COMMA END-WIPE ACTIVATOR SENTINEL SUBROUTINE

ABS, 000020,00, CEWA△△

Reference Information

Predicted by:

1. Initial.
2. Comma.

Immediate Action

1. Perform infinity tester.
  2. If no success, wipe this and all previous predictions in pool.
  3. Modify comma end-wipe sentinels to end clause mode.
  4. Activate all modifier predictions in pool.
-

99-ACTIVATOR SENTINEL SUBROUTINE

ABS, 000020,00, 499EWA

Reference Information

Predicted by:

1. Infinite conjunction.

Immediate Action

1. Perform infinity tester.
  2. If no success, wipe this and all previous predictions in pool.
  3. Activate all 99 PSI predictions in pool.
-

FIRST LETTER	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIOrganized WORD	DICtIONARY SERIAL NO.			
1 A	1 N	1 ПОДКОШНОСТЬ	2 	3 A O B - 1	4 O A I I F T Y O	5 N A	6 F	7 	8 01 98 73 00 00	9 00

SYNTACTIC ROLE									
09	0A	SUB	UC	TM					

PREFERRED ARGUMENT									
N									

GRAMMATICAL UNIT									
ND	18	00	0A	1230A	ND	11	FT	YO	

CHAIN NO. 10  
SITE OF  
MAY

[illegible]

A B C D  
 6 9 0 1 2 3 4 5 6 7 8 9 0 0 0  
 D = WIPED PREDICTION  
 X 16 - SUBJECT  
 X 01 - PREDICATE HEAD  
 659 - OBJECT, AGENT, PREPOSITION  
 COMPLEMENT  
 531 - MASTER  
 X 15 - NUMERAL MASTER

Output Format of the Experimental Predictive Syntactic Analysis Program

Figure 1

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER (TRANSLITERATED)	RUSSIAN WORD	TEXT		ORGANIZED WORD	ALTERNATIVE ARGUMENTS		3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
			SERIAL NO.	WORD		ARGUMENTS	ARGUMENTS		
LIKE ANTENNA	A02,00	PODOBEN-YE	00H-0507	AD00000	0	-----N-A-----	-----A-A-----	P2	1475400000000
SYSTEM	A01,00	ANTENN-YE	00H-0508	AD01000	0	-----N-A-----	-----A-A-----		0031200000000
DESCRIBE	N04,00	SISTEM-Y	00H-0509	ND12F000		-----N-A-----	-----A-A-----		184402857142
	V01,00	OPISYVA-JUTS JA	00H-0510	VN 0P30000		-----TBADR	-----F-F-----	BOB1B4B6	1271100000000
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL							
LIKE ANTENNA	00	14	00H-0507	AD00000	0	-----N-----	-----A-----	P2	111 SUBJECT
SYSTEM	00	11	00H-0508	AD01000	0	-----N-----	-----A-----		507 SUBJECTM
DESCRIBE	00	11	00H-0509	ND12F000		-----N-----	-----F-----		508 SUBJECTH
	00	11	00H-0510	VN 0P40000		0000TBADR	-----F-----	BOB1B4B6	111 V PRED
HINDSIGHT									
			ALTERNATIVE ARGUMENTS		ALTERNATIVE ROLE				
LIKE ANTENNA	A02,00	PODOBEN-YE	00H-0507	AD00000	0	-----A-----	-----A-----	P2	111 L ORU
SYSTEM	A01,00	ANTENN-YE	00H-0508	AD01000	0	-----A-----	-----A-----		111 L ORU
	N04,00	SISTEM-Y	00H-0509	ND12F000		-----A-----	-----F-----		111 L ORU

A Basic Phrase  
Figure 2

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
CONNECTION	WIEL	WIEL	00K-0341	PA K STD 0	-----P-----	POOROPAOOAOO	15424555554		
LOCATION	WIEL	WIEL	00K-0342	PA K STD 0	-----P-----	POOROPAOOAOO	218926874994		
TIME	WIEL	WIEL	00K-0343	MDIIN100 0	N-A-----	PA	1731400000000		
DEPENDENT	WIEL	WIEL	00K-0344	PA K STD 0	-----GA-----	AA--A	216922708330		
			00K-0345	MDIIN1000 0	-----G-----	M-----	1101700000000		
			00K-0346	MDIIN1000 0	-----G-----	N-----	0270400000000		
			00K-0347	ADDOOAOO 2 0	N-----	N-----	1160000000000		
ANALYZED TEXT									
			CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT				
CONNECTION	WIEL	WIEL	00 12	00K-0341	-----P-----	POOROPAOOAOO	INF PREP		
LOCATION	WIEL	WIEL	00 21	00K-0342	-----P-----	POOROPAOOAOO	181 R COMP		
TIME	WIEL	WIEL	00 22	00K-0343	N-----	PA	111 SUBJECT		
DEPENDENT	WIEL	WIEL	00 10	00K-0344	-----G-----	AA--A	183 N COMP		
			00 14	00K-0345	-----G-----	M-----	184 N COMP		
			00 14	00K-0346	-----G-----	N-----	185 N COMP		
			00 17	00K-0347	N-----	N-----	111 A PRED		
HINDSIGHT									
						INTERSECTING ARGUMENTS	ALTERNATIVE ROLE		
CONNECTION	WIEL	WIEL	00K-0342	PA K STD 0	-----P-----	-----B-----	381 R COMP		
LOCATION	WIEL	WIEL	00K-0343	MDIIN100 0	-----P-----	-----B-----	111 L OBJ		
TIME	WIEL	WIEL	00K-0344	PA K STD 0	-----G-----	-----A-----	183 N COMP		
DEPENDENT	WIEL	WIEL	00K-0345	MDIIN1000 0	-----G-----	-----A-----	111 L OBJ		
			00K-0346	MDIIN1000 0	-----G-----	-----A-----	111 L OBJ		
			00K-0347	ADDOOAOO 2 0	N-----	N-----	111 IND OBJ		
							INF ADVB		

A Basic Phrase with an Unfulfilled Master Prediction  
Figure 3



# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	3rd	DICTIONARY SERIAL NO.
RESISTANCE	N10.00	SOPOTIVLENT -E	00A-1726	MD11N100	N-A	P4		188310000000
THIS	P01.00	FHT-U	00A-1727	PKLI STD	N-A	P2P9		218923749996
SHOULD	A02.00	CCU7HN-C	00A-1728	AD00000 2	N-A	B0		054100000000
CONSIDERABLE	V21.00	BY-T	00A-1729	VN 3000000 3	N			010605000000
GREATER	A02.00	ZNACHITFL-N-C	00A-1730	AD00000 2	N			072900000000
LARGE	A04.00	ROL-SH-TM	00A-1731	AD00000 2	N			090100000000
RESISTANCE	A05.00	VAUTRENN-EG	00A-1732	AD01000 0	N			019250000000
HITTING IN	N10.00	SOPOTIVLENT CJA	00A-1733	MD11N100	N			188310000000
PIPE	A05.00	POUKLJUCH-JU SHU-I-V	00A-1734	AD0100 40	N			147000000000
..	N05.00	LAMP-	00A-1735	MD12F000	N			098600000000
..	..	..	00A-1736	..	..			..

# ANALYZED TEXT

SIZE OF CHAIN	SIZE OF CHAIN	SYNTACTIC ROLE
00 10	00 10	III SUBJECT
00 09	00 09	III L OBJ
00 11	00 11	INF ADVE
00 14	00 14	728 V MAST
00 16	00 16	729 V COMP
01 15	01 15	728 OBJECT
01 04	01 04	INF ARBTR
01 05	01 05	732 ARBTR M
01 11	01 11	733 N COMP
01 09	01 09	734 N COMPM
..	..	FND OF SENT.

# HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
00A-1726 MD11N100	III L OBJ
00A-1727 PKLI STD	III L OBJ
00A-1728 AD00000 2	INF ADVE
00A-1730 VN 3000000 3	728 OBJECT
00A-1731 AD01000 0	III IND OBJ
00A-1732 AD01000 0	III IND OBJ
00A-1733 MD11N100	III IND OBJ
00A-1734 AD0100 40	..
00A-1735 MD12F000	..
00A-1736 ..	..

A Basic Phrase with a Noun Preceding an Adjective

Figure 5

A Noun Phrase

Figure 6

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
NOTHING	P01.00	ON-A	\$ -0527	PN K STP 0	N-----		126772000002		
NOT	P01.00	NILH-EGC	\$ -0528	PN I STN 0	-G-----		1260P3035714		
DAY	V01.00	SKAZAL-A	\$ -0529	WN	-N-----		110B10000000		
..		..	\$ -0530	VS 0000000	SSS---AFD-	B3	184511904760		
			\$ -0531						
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT			SYNTACTIC ROLE		
NOTHING	P01.00 ON-A	00 1R	\$ -0527	PN K STP 0	N-----		III SUBJECT		
NOT	P01.00 NILH-EGC	00 09	\$ -0528	PN I STN 0	-G-----		527 N COMP		
DAY	V01.00 SKAZAL-A	00 12	\$ -0529	WN	-N-----		INF NEGATIVE		
..		00 12	\$ -0530	VS 0000000	SSS000AFD0	B3	III V PRED		
		00 0R	\$ -0531				FND OF SENT.		
HINDSIGHT									
PREDICTION	WIPER	----	580012000650	CGAC00000000000000	000	000	000	000	END OF SENT.
..									

A Pronoun Incorrectly Analyzed as a Noun  
Figure 7

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT		ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
			SERIAL NO.	WORD					
MANY	ADP.00	WNOG-IE	00K-0178	KDKU400	0	-----N-A-----A-A-----		10827333332	
PHYSICAL	ADP.00	FIZICHEK-IF	00K-0179	AD01000	0	-----N-A-----A-A-----		20831000000	
APPEARANCE	NIP.00	JAVLENI-JA	00K-0180	MD11N000		-G-----N-A-----N-----	P4	21924000000	
REQUIRE	VO*.00	TELEU-JIT	00K-0181	WNOOP5F400		-----T8AD-----	B184B5	19950000000	
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL				PREFERRED ARGUMENT		SYNTACTIC ROLE	
MANY	00	18	00K-0178	ADK0400	0	-----N-A-----A-A-----		III SUBJECT	
PHYSICAL	00	10	00K-0179	AD01000	0	-----N-A-----A-A-----		178 SUBJECT	
APPEARANCE	00	11	00K-0180	MD11N000		-----N-A-----N-----	R4	179 SUBJECT	
REQUIRE	00	12	00K-0181	WNOOP5F400		0000T8AD0	B184B5	III V PRED	
HINDSIGHT									
						INTERSECTING ARGUMENTS		ALTERNATIVE ROLE	
MANY	ADP.00	WNOG-IE	00K-0178	ADK0400	0	-----N-A-----A-A-----		III SUBJECT	
MANY	ADP.00	WNOG-IE	00K-0178	ADK0400	0	-----N-A-----A-A-----		III L OBJ	
MANY	ADP.00	WNOG-IE	00K-0178	ADK0400	0	-----N-A-----A-A-----		III L OBJ	
PHYSICAL	ADP.00	FIZICHEK-IF	00K-0179	AD01000	0	-----N-A-----A-A-----		III L OBJ	
APPEARANCE	NIP.00	JAVLENI-JA	00K-0180	MD11N000		-----N-A-----A-A-----	R4	III L OBJ	
PRECEDENCE	WIPED	181012011650	0000000000	000	000				

The Analysis of an Adjective-noun Homograph  
Figure 8

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
CONNECTED	WI TH	101.00	PR-T	004-0354	0	-----P-----	P00R00A00600	15424555554	
DIFFERENT		102.00	RAZLICHN-YX	004-0355	0	-----GA--P-----	-----AA--A-----	1708P0000000	
RESEARCH		110.00	ISLEDUVANI- JAY	004-0356	ND11N000	-----P-----	-----N P4-----	083550000000	
ANALYZED TEXT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE				
CONNECTED	WI TH	00 17	004-0354	-----P-----	INF PREP				
DIFFERENT		00 19	004-0355	-----P-----	354 R COMP				
RESEARCH		00 23	004-0356	-----P-----	355 R COMP				

A Prepositional Phrase

Figure 9

A Prepositional Phrase with Number Ambiguity  
Figure 10

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS	RUSSIAN WORD	TEXT	ORGANIZED	ALTERNATIVE	ARGUMENTS	3rd SEMI-ORGANIZED	DICTIONARY	
MARKER (TRANSLITERATED)			SERIAL NO.	WORD			WORD	SERIAL NO.	
..	101.00	-V	00K-0686	N	--A--P--A--P		PAOP0CAB0650	000020000000	
..	101.00	LJLB-0J	00K-0687	KDAI000	NGA0IP	MFWFF		101900000000	
PREVIOUS	101.00	PREVIOUS	00K-0688	AD01000	N-A	M-W		186300000000	
PRESENT	101.00	PRESENT	00K-0689	ND11000	N-A	M-W		110100000000	
TIME	101.00	TIME	00K-0690	ND11000	-G-C-P	-N-N-N		027000000000	
ANALYZED TEXT									
..	101.00	-V	00K-0686	P	--A--P--A--P		PAOP0CAB0650	INF PREP	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			686 R COMP	
PREVIOUS	101.00	PREVIOUS	00K-0688	AD01000	--A--P--A--P			687 R COMP	
PRESENT	101.00	PRESENT	00K-0689	ND11000	--A--P--A--P			688 R COMP	
TIME	101.00	TIME	00K-0690	ND11000	-G	-N		689 N COMP	
HINDSIGHT									
..	101.00	LJLB-0J	00K-0687	NDAI000	INTERSECTING	ARGUMENTS		ALTERNATIVE	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			686 R COMP	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			685 AGENT	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			685 AGENT	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			679 AGENT	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			679 AGENT	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			665 IND OBJ	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			665 IND OBJ	
..	101.00	LJLB-0J	00K-0687	ADAI000	--A--P--A--P			665 IND OBJ	

A Prepositional Phrase with Case Ambiguity

Figure 11

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS	RUSSIAN WORD MARKER (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd WORD	DICTIONARY SERIAL NO.	
1. REGION	101.00	-V	004-0357	0	---A---A---P	PA0R00AB0650	P2	000020000000	
2. REGION	101.00	0BLAST-1	004-0358	ND11F000	-G-C-PN-A---F-E-F-F-F---			121470000000	
3. REGION	101.00	SANITIMETROV-VA	004-0359	AR000000	---GA---P			179870000000	
4. REGION	101.00	VOLN-	004-0360	ND12F000	---G---			022510000000	
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT			SYNTACTIC ROLE	
1. REGION	101.00	-V	00	24	---A---A---P	PA0R00AB0650	P2	INF PREP	
2. REGION	101.00	0BLAST-1	00	24	---P---A---			357 R COMP	
3. REGION	101.00	SANITIMETROV-VA	00	30	---G---			358 N COMP	
4. REGION	101.00	VOLN-	00	34	---G---			359 N COMP	
HINDSIGHT									
1. REGION	104.00	0BLAST-1	004-0358	ND11F000	INTERSECTING ARGUMENTS			ALTERNATIVE ROLE	
2. REGION	104.00	0BLAST-1	004-0358	ND11F000	---F---	P2		351 OBJECT	
					---F---	P2		347 IND OBJ	

A Prepositional Phrase with Case and Number Ambiguity  
Figure 12

UNANALYZED TEXT				ANALYZED TEXT			
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
penetration	N1A.00	PRONIKNOVENT -E	00K-0225	MD11M100	N-A-----	P4	103110000000
molecule	N04.00	MOLEKUL-	00K-0226	MD12F000	-----G-----		110049285710
we	001.00	ONN-UJ	00K-0227	DXPFESJPK	-G-CIP-----		124420555554
liquid	N0A.00	ZHIDKOST-I	00K-0228	MD11F100	-G-r-Ph-A--- -F-F-F-F-F---	P2	057070000000
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE	
penetration	N1A.00	PRONIKNOVENT -E	00	26	N-----	N	224 SUBJECT
molecule	N04.00	MOLEKUL-	00	27	-----G-----	R4	225 N COMP
we	001.00	ONN-UJ	00	30	-G-----	OGOCIP0000000	226 N COMP
liquid	N0A.00	ZHIDKOST-I	00	34	-G-----	P2	227 N COMP
HINDSIGHT				ALTERNATIVE			
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	CHAIN NO.	SIZE OF POOL	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE	
we	001.00	ONN-UJ	00K-0227	00	-----C-----	OGOCIP0000000	222 IND OBJ
liquid	N0A.00	ZHIDKOST-I	00K-0228	00	-----C-----	P2	222 IND OBJ
molecule	001.00	ONN-UJ	00K-0227	00	-----G-----	OGOCIP0000000	226 N COMP
we	001.00	ONN-UJ	00K-0227	00	-----I-----	OGOCIP0000000	225 AGENT
we	001.00	ONN-UJ	00K-0227	00	-----I-----	OGOCIP0000000	225 AGENT
we	001.00	ONN-UJ	00K-0227	00	-----I-----	OGOCIP0000000	223 AGENT
we	001.00	ONN-UJ	00K-0227	00	-----I-----	OGOCIP0000000	223 AGENT
we	001.00	ONN-UJ	00K-0227	00	-----I-----	OGOCIP0000000	222 IND OBJ

A Numeral Phrase with a Numeral of the First Type  
Figure 13

UNANALYZED TEXT									
FACT ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
100	101.00	-V	00H-0511	P	RACJPV	--A--P--A--P	PAOP00AB0650	000020000000	
100	101.00	STATS-JAX	00H-0512	NA	RACJPV	--GA--P--GA--P	00000000GACOP	046550000000	
100	101.00	SEBUNIK-A	00H-0513	NC11F000		-----P		192120000000	
100	101.00		00H-0514	NC11W000		-G-----		180115000000	
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL						
100	101.00	00	04	00H-0511	P	PAOP00AB0650	INF PREP		
100	101.00	00	09	00H-0512	NA RACJPV	00000000GACOP	511 R COMP		
100	101.00	00	13	00H-0513	NC11F000	-----P			
100	101.00	00	13	00H-0514	NC11W000	-G-----			
HINDSIGHT									
100	101.00	00H-0512	PN RACJPV						
				INTERSECTING ARGUMENTS			ALTERNATIVE ROLE		
				--A--P--A--P			511 R COMP		

A Numeral Phrase with a Numeral of the First Type  
Figure 14



UNANALYZED TEXT			
FIRST ENG. SH EQUIVALENT	CLASS MARKER (TRANSLITERATED)	TEXT SERIAL NO. WORD	3rd SEMIORGANIZED WORD
17C	DS1.00 0V-F	00X-0219 0A KFCJBPKK	
17DUF	NSA.00 7H1PKOST-I	00X-0220 MD11F100	OROC00ZV0000 045603333332 P2
			057070000000
ANALYZED TEXT			
CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE
00 1P	00X-0219 0A KFCJBPKK	--A-----A-----	216C OBJECT
00 1P	00X-0220 MD11F100	--G-----F-----	219C OBJECTN
HINDSIGHT			
		INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
00 1P	00X-0219 0A KFCJBPKK	--A-----A-----	OR0000ZV0000 216C OBJECT
00 1P	00X-0219 0A KFCJBPKK	--N-----F-----	OR0000ZV0000 212 SUBJECT
00 1P	00X-0220 MD11F100	--N-----F-----	OR0000ZV0000 212 SUBJECT
00 1P	00X-0220 MD11F100	--G-----F-----	P2 212 INC OBJ

A Numeral Phrase with a Numeral of the Third Type  
Figure 16

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	DICTIONARY SERIAL NO.		
FOUR	DO1.00	CHETVR-F	\$ -0235	0 RACJPVKK	N-A---N-A---A-A---A-A---	0R0000ZV0000	213500416666		
BLACK	AO2.00	CHERN-YF	\$ -0236	AD00000 0	---N-A---A-A---		213240000000		
SIX	NO4.00	KHIG-I	\$ -0237	MD11F000	-G---N-A---F---F---		089100000000		
ANALYZED TEXT									
			SIZE OF						
			CHAIN NO	POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE			
FOUR	DO1.00	CHETVR-F	00 24	\$ -0235	0A RACJPVKK	N-----N-----A-----A-----	0R0000ZV0000	111	SUBJECT
BLACK	AO2.00	CHERN-YF	00 10	\$ -0236	AD00000 0	---N-----A-----A-----		235	SUBJECT
SIX	NO4.00	KHIG-I	00 09	\$ -0237	MD11F000	-G-----F-----F-----		236	SUBJECT
HINDSIGHT									
						INTERSECTING ARGUMENTS			
						ALTERNATIVE ROLE			
FOUR	DO1.00	CHETVR-F	\$ -0235	0N RACJPVKK	N-----N-----A-----A-----	0R0000ZV0000	111	SUBJECT	
FOUR	DO1.00	CHETVR-F	\$ -0235	0A RACJPVKK	---A-----A-----A-----		0R0000ZV0000	111	L OBJ
BLACK	AO2.00	CHERN-YF	\$ -0236	0N RACJPVKK	---A-----A-----A-----		0R0000ZV0000	111	L OBJ
BLACK	AO2.00	CHERN-YF	\$ -0236	AD00000 0	---A-----A-----A-----			111	L OBJ
SIX	NO4.00	KHIG-I	\$ -0237	MD11F000	---A-----A-----F-----			111	L OBJ

A Numeral Phrase with a Numeral of the Third Type  
Figure 17

A Numeral Phrase with a Numeral of the Third Type

Figure 18

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DIC*IONARY SERIAL NO.		
TWO HINDREF	001.00	OVST-I	-0205	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	045705000000		
1-JPTV	001.00	TRICTSA-T	-0206	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	200774027779		
TWO	001.00	OV-A	-0207	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	045676666666		
CHLOVEK-A	001.00	CHLOVEK-A	-0208	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	045676666666		
OF	001.00	BYL-U	-0209	VN 3000000 3	SSS---AND-	B3	010806666666		
HERE	001.00	70-FS	-0210	M			072000000000		
..			-0211						
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT					SYNTACTIC ROLE	
TWO HINDREF	00 1R	\$	-0205	CA RACJPYKK	N-----N-----A-----A-----	000000000000	111	SUBJECT	
1-JPTV	00 10	\$	-0206	CA RACJPYKK	N-----N-----A-----A-----	000000000000	205	SUBJECT	
TWO	00 11	\$	-0207	CA RACJPYKK	N-----N-----A-----A-----	000000000000	206	SUBJECT	
(CORP.ENTRY)	00 12	\$	-0208	INDA2M100	N-----N-----A-----A-----	000000000000	207	SUBJECT	
OF	00 12	\$	-0209	VN 3000000 3	SSS000AND0	B3	111	V PRED	
HERE	00 0A	\$	-0210	M			INF	ADVB	
..			-0211				FND	OF SPNT.	
HINDSIGHT									
	CHAIN NO	SIZE OF POOL	INTERSECTING ARGUMENTS					ALTERNATIVE ROLE	
TWO HINDREF	00 1R	\$	-0205	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	INF	NUMERAL	
1-JPTV	00 10	\$	-0206	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	INF	NUMERAL	
TWO	00 11	\$	-0207	CA RACJPYKK	N-A---N-A---A-A---A-A---	000000000000	111	SUBJECT	
(CORP.ENTRY)	00 12	\$	-0208	INDA2M100	N-A---N-A---A-A---A-A---	000000000000	111	L OBJ	
OF	00 12	\$	-0209	VN 3000000 3	SSS000AND0	B3	111	L OBJ	
HERE	00 0A	\$	-0210	M			INF	NUMERAL	
..			-0211				INF	NUMERAL	
PREDICTION	00 0A	\$	-0211				111	L OBJ	
								FND OF SPNT.	

A Chain Numeral  
Figure 19

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI ORGANIZED WORD	DICTIONARY SERIAL NO.
UPE HINDREN	DO1.00 ST-0	ST-0	-0196	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0197	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0198	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0199	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0200	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0201	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0202	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0203	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666
UPE HINDREN	DO1.00 ST-0	ST-0	-0204	0 HACJYKKK	N-A--N-A--A-A--A-A--	000000000000	101318666666

# ANALYZED TEXT

CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT
00 10	10	N-A--N-A--A-A--A-A--	111 SUBJECT

# HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL
N-A--N-A--A-A--A-A--	111 NUMERAL

A Chain Numeral

Figure 20

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT		ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
			SERIAL NO.	WORD					
COME (TC)	V04.00	SVOP-ITSJA	004-0262		VNR30900*0	--T---BADR	E6 B18485	18150333333	
TC	101.00	K-	004-0263		P	---C---C--		08480000000	
PREPARATION	N10.00	IZGOTOVLENI- JU	004-0264		ND11N000	---N-----	P4	07527500000	
ANALYZED TEXT									
			CHAIN NO.	SIZE OF POOL		PREFERRED ARGUMENT		SYNTACTIC ROLE	
COME (TC)	V04.00	SVOP-ITSJA	00	14	004-0262	VNR30900*0	0010000ADR	E6 B18485	111 V PRED
TC	101.00	K-	00	06	004-0263	P	---C---C--	COORONAO0300	262 R OBJ
PREPARATION	N10.00	IZGOTOVLENI- JU	00	08	004-0264	ND11N000	---N-----	R4	263 R COMP
HINDSIGHT									
TC	101.00	K-			004-0263	P	---C---C--	COORONAO0300	INF PREP
PREPARATION	N10.00	IZGOTOVLENI- JU			004-0264	ND11N000	---N-----	R4	111 IND OBJ

A Verb Phrase with a Preposition Object

Figure 21

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
ACQUIRE	VERB	PRIBYVAT	000-0181	UNCOSEFAC	---	---	9050000000		
FOR	PREP	VLIV	000-0182	---	---	---	5197000000		
CHARACTER	ADJ	OSCHEN	000-0183	PAK SAS	---	---	8150918181		
STUDY	VERB	OSCHEN	000-0184	PAK SAS	---	---	7819000000		
FLUENT	ADJ	OSCHEN	000-0185	PAK SAS	---	---	2037750000		
FLUCTUATE	VERB	OSCHEN	000-0186	PAK SAS	---	---	1300000000		
PROBABILITY	ADJ	OSCHEN	000-0187	PAK SAS	---	---	1154000000		
ANALYZED TEXT									
			CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE			
ACQUIRE	VERB	PRIBYVAT	00 12	000-0181	UNCOSEFAC	---			
FOR	PREP	VLIV	00 07	000-0182	---	---			
CHARACTER	ADJ	OSCHEN	00 00	000-0183	PAK SAS	---			
STUDY	VERB	OSCHEN	00 19	000-0184	PAK SAS	---			
FLUENT	ADJ	OSCHEN	00 10	000-0185	PAK SAS	---			
FLUCTUATE	VERB	OSCHEN	00 17	000-0186	PAK SAS	---			
PROBABILITY	ADJ	OSCHEN	00 07	000-0187	PAK SAS	---			
HINDSIGHT									
ACQUIRE	VERB	PRIBYVAT	000-0181	PAK SAS	---	---	181	OPJCT	---
FOR	PREP	VLIV	000-0182	---	---	---	181	OPJCT	---
CHARACTER	ADJ	OSCHEN	000-0183	PAK SAS	---	---	181	OPJCT	---
STUDY	VERB	OSCHEN	000-0184	PAK SAS	---	---	181	OPJCT	---
FLUENT	ADJ	OSCHEN	000-0185	PAK SAS	---	---	181	OPJCT	---
FLUCTUATE	VERB	OSCHEN	000-0186	PAK SAS	---	---	181	OPJCT	---
PROBABILITY	ADJ	OSCHEN	000-0187	PAK SAS	---	---	181	OPJCT	---

Two Verb Phrases  
Figure 22

UNANALYZED TEXT									
FIRST ENGL S- EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMIORGANIZED WORD	DICTIONARY SERIAL NO.	
CALL RE		VOI, VO	STAIKIVA-FTE JA	00X-0151	VN 0J10000	--T---GADP	B0B1B4B6	19164222222	
ATTN		VOI, VO	DELG-IMT	00X-0152	N 0010000	-GA-I--GA-I-	IGAROCAB1111	17891000000	
WOLF FILE		NOU, VO	WOLF-KUL-AM	00X-0153	KDK1000	-----I-		05570000000	
				00X-0154	ND12F000	-----E-		110049285710	
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL						
CALL RE		00 19	00X-0151	VN 0J10000	PREFERRED ARGUMENT	B0B1B4B6	111 V PRED		
ATTN		00 04	00X-0152	N 0010000	00T000GADP	IGAROCAB1111	151 R OBJ		
WOLF FILE		00 04	00X-0153	KDK1000	-----I-		152 R COMP		
		00 12	00X-0154	ND12F000	-----E-		153 R COMPM		
HINDSIGHT									
ATTN		00 19	00X-0151	VN 0J10000	INTERSECTING ARGUMENTS	IGAROCAB1111	INF PREP		
WOLF FILE		00 04	00X-0153	KDK1000	-GA-I--GA-I-		152 R COMP		

A Verb Phrase with a Preposition Object  
Figure 23

Figure 24

Figure 24

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
EVERYWHERE	101.00	VEZD-E	0011-0213	M			012670000000		
AFT	003.00	VSTRECHA-EM	0011-0214	AD0000	1101	P300	028900000000		
AFT	001.00	VSTRECHA-EM	0011-0214	VNOOP30000	---V-BAD-	BOB1B4B6	028910000000		
ANALYSIS	001.00	ANALIZ-	0011-0215	MD11M000	N-M		025000000000		
ANALYZED TEXT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT			SYNTACTIC ROLE		
EVERYWHERE	101.00	VEZD-E	20 52	0011-0213	M		INF ADVB		
AFT	003.00	VSTRECHA-EM	20 52	0011-0214	AD0000	1101	111 A PRED		
ANALYSIS	001.00	ANALIZ-	20 04	0011-0215	MD11M000		111 SUBJECT		
HINDSIGHT									
AFT	001.00	VSTRECHA-EM		0011-0214	VNOOP30000		ALTERNATIVE ROLE	111	V PRED
						000V00B4D0			
						BOB1B4B6			

The Analysis of a Short-form Adjective-verb Homograph  
Figure 25

An Object of a Participle

Figure 26

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	CHAIN NO	SIZE OF POOL	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	DICTIONARY SERIAL NO.
1. LIVING	NOB.00	USTPOJSTV-A	00	18	00A-0154	MD11N000	-G---N-A---N---N-N---		206900000000
2. OCCUR	NOB.00	POZVOLJAJUSH CH-IE	00	09	00A-0155	AD0100 40	-----N-A---A---A---	P200	149110000000
3. INSTRUMENTAL	NOB.00	VYFLI-T	00	20	00A-0156	VS OP70000	-----A---A---A---	B0B6	021908000000
4. PRESENT	NOB.00	OSNOVN-TJU	00	16	00A-0157	VS OP70000	-----A---A---A---		129400000000
	NOB.00	CHASTOT-I	00	17	00A-0158	AD00000 0	-----A---A---A---		212940000000
	NOB.00	CHASTOT-I	00	21	00A-0159	MT12F000	-----A---A---A---		
ANALYZED TEXT									
1. LIVING	NOB.00	USTPOJSTV-A	00	18	00A-0154	MD11N000	PREFERRED ARGUMENT		SYNTACTIC ROLE
2. OCCUR	NOB.00	POZVOLJAJUSH CH-IE	00	09	00A-0155	AD0100 40	-----N---N---N---		III SUBJECT
3. INSTRUMENTAL	NOB.00	VYFLI-T	00	20	00A-0156	VS OP70000	-----N---N---N---		INF COMMA
4. PRESENT	NOB.00	OSNOVN-TJU	00	16	00A-0157	VS OP70000	-----A---A---A---	P200	154 MODIFIER
	NOB.00	CHASTOT-I	00	17	00A-0158	AD00000 0	-----A---A---A---	B0B6	156 V MAST
	NOB.00	CHASTOT-I	00	21	00A-0159	MT12F000	-----A---A---A---		157 OBJECT
	NOB.00	CHASTOT-I	00	21	00A-0159	MT12F000	-----A---A---A---		158 OBJECTM
HINDSIGHT									
1. LIVING	NOB.00	USTPOJSTV-A	00	18	00A-0154	MD11N000	INTERSECTING ARGUMENTS		ALTERNATIVE ROLE
2. OCCUR	NOB.00	POZVOLJAJUSH CH-IE	00	09	00A-0155	AD0100 40	-----A---A---A---		III L OBJ
3. INSTRUMENTAL	NOB.00	VYFLI-T	00	20	00A-0156	VS OP70000	-----A---A---A---		INF CLAUSER
4. PRESENT	NOB.00	OSNOVN-TJU	00	16	00A-0157	VS OP70000	-----A---A---A---		INF CONJUNCT
	NOB.00	CHASTOT-I	00	17	00A-0158	AD00000 0	-----A---A---A---		III L OBJ
	NOB.00	CHASTOT-I	00	21	00A-0159	MT12F000	-----A---A---A---	P200	

A Verb Master of a Participle  
Figure 27

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS		3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
ATTEND		NOUN	ПОСЛУШАТЕЛЬ	000-0480	NP11F000	N-----F-----		P0	152059722228
ATTEND		NOUN	ПОСЛУШАТЕЛЬ	000-0480	VS00P70000	F-----F-----		B0R6	130260000000
ATTEND		NOUN	ПОСЛУШАТЕЛЬ	000-0480	NP11F000	N-----F-----		P2	110701666666
ANALYZED TEXT									
CHAIN NO		SIZE OF POOL		PREFERRED ARGUMENT		SYNTACTIC ROLE			
02		20		NP11F000		111 SUBJECT			
02		09		VS00P70000		489 V MAST			
02		11		NP11F000		490 OBJECT			
HINDSIGHT									
000-0480		VS00P70000		INTERSECTING ARGUMENTS		FO		B0R6	ALTERNATIVE ROLE
000-0480		VS00P70000		FO				485	V MAST

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
SPONTANEOUS	A01.00	ESTESTVFN-C	00K-0875	AD00000 2 0	N-----		T7	054540000000	
CALL	V05.41	NAZVA-T	00K-0876	V500P3L400	F-----	B086		112052352940	
POSSESS	A01.00	VYLEFEN-YU	00K-0877	AD00000 30	N-A-----	P700		031940000000	
CLASS	P01.00	N-AMT	00K-0878	PN A PVP 0	N-A-----			110800000000	
NAME	N01.00	VLASS-	00K-0879	NC11M000	N-A-----			088450000000	
PROCESSES	A02.00	VLUCHA-M-YA	00K-0880	AD00000 0	N-A-----			18571145827	
PROCESSES	N01.00	PRUTSEFS-OV	00K-0881	NC11M000	N-A-----			164970000000	
PROCESSES	N01.00	PRUTSEFS-AMT	00K-0882	NC11M000	N-A-----			164970000000	
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT				
SPONTANEOUS	A01.00	ESTESTVFN-C	00	21	N-----	T7		054540000000	
CALL	V05.41	NAZVA-T	00	19	FN	B086		112052352940	
POSSESS	A01.00	VYLEFEN-YU	00	23	N-----	R000		031940000000	
CLASS	P01.00	N-AMT	00	30	N-----			110800000000	
NAME	N01.00	VLASS-	00	34	N-----			088450000000	
PROCESSES	A02.00	VLUCHA-M-YA	00	27	N-----			18571145827	
PROCESSES	N01.00	PRUTSEFS-OV	00	31	N-----			164970000000	
PROCESSES	N01.00	PRUTSEFS-AMT	00	31	N-----			164970000000	
HINDSIGHT									
SPONTANEOUS	A01.00	ESTESTVFN-C	00K-0875	AD00000 2 0	N-----	T7		054540000000	
CALL	V05.41	NAZVA-T	00K-0876	V500P3P400	FN	B086		112052352940	
POSSESS	P01.00	N-AMT	00K-0878	PN A PVP 0	N-----	R000		031940000000	
CLASS	N01.00	VLASS-	00K-0879	NC11M000	N-----			110800000000	
NAME	A02.00	VLUCHA-M-YA	00K-0880	AD00000 0	N-----			088450000000	
PROCESSES	N01.00	PRUTSEFS-OV	00K-0881	NC11M000	N-----			18571145827	
PROCESSES	N01.00	PRUTSEFS-AMT	00K-0882	NC11M000	N-----			164970000000	
ALTERNATIVE									
						ROLE			
						T7	INF	ADVB	
						H74	SUBJCT		
						B086	OBJECT		

A Participle Used "Adjectivally"

Figure 29

# UNANALYZED TEXT

TEXT	ORGANIZED	3rd SEMIORGANIZED	ALTERNATIVE	ARGUMENTS	DICTIONARY
SERIAL NO.	WORD	WORD			SERIAL NO.
1	1000000	1000000	1000000	1000000	1000000
2	1000000	1000000	1000000	1000000	1000000
3	1000000	1000000	1000000	1000000	1000000
4	1000000	1000000	1000000	1000000	1000000
5	1000000	1000000	1000000	1000000	1000000
6	1000000	1000000	1000000	1000000	1000000
7	1000000	1000000	1000000	1000000	1000000
8	1000000	1000000	1000000	1000000	1000000
9	1000000	1000000	1000000	1000000	1000000
10	1000000	1000000	1000000	1000000	1000000

## ANALYZED TEXT

CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE
1	1000000	1000000	1000000
2	1000000	1000000	1000000
3	1000000	1000000	1000000
4	1000000	1000000	1000000
5	1000000	1000000	1000000
6	1000000	1000000	1000000
7	1000000	1000000	1000000
8	1000000	1000000	1000000
9	1000000	1000000	1000000
10	1000000	1000000	1000000

## HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000
1000000	1000000

An Object Overridden by a Master

Figure 30

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS		3rd SEMIOrganized WORD	DICTIONARY SERIAL NO.
MATCHING		N01.00	POUPUR-	00A-2438	ND11M000	N-A-----			1442000000000
1. PRE		N04.00	LAMP-	00A-2439	ND12F000	-----G-----			1986000000000
2. SENSITIVE		N01.00	USUSCHELSTVIA N-A	00A-2440	AD01000 2 0	-----F-----			1940000000000
3. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00A-2441	VN 0P30000 0	-----N-----		B081B486	1214000000000
4. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00A-2442	ND11M000	-----I-----			1863000000000
5. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00A-2443	ND11M000	-G-----N-A-----		P4	1450000000000
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL			PREFERRED ARGUMENT		SYNTACTIC ROLE	
MATCHING		N01.00	POUPUR-	00 18	00A-2438	ND11M000	N-----		111 SUBJECT
1. PRE		N04.00	LAMP-	00 00	00A-2439	ND12F000	-----M-----		438 N COMP
2. SENSITIVE		N01.00	USUSCHELSTVIA N-A	00 12	00A-2440	AD01000 2 0	-----F-----		111 ADVB
3. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00 12	00A-2441	VN 0P30000 0	-----N-----	B081B486	111 V PRED
4. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00 06	00A-2442	ND11M000	-----I-----		441 AGENT
5. ACTIONAL		N01.00	USUSCHELSTVIA N-A	00 07	00A-2443	ND11M000	-G-----N-----		442 N COMP
HINDSIGHT									
MATCHING		N01.00	POUPUR-	00A-2438	ND11M000	INTERSECTING ARGUMENTS		ALTERNATIVE ROLE	
						--A-----		111 L ORJ	

An Agent of a Verb  
Figure 31

UNANALYZED TEXT									
CHAIN NO	TEXT	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	DICTONARY SERIAL NO				
1	RUSSIAN WORK	RUSSIAN WORK							
2	RUSSIAN WORK	RUSSIAN WORK							
3	RUSSIAN WORK	RUSSIAN WORK							
4	RUSSIAN WORK	RUSSIAN WORK							
5	RUSSIAN WORK	RUSSIAN WORK							
6	RUSSIAN WORK	RUSSIAN WORK							
7	RUSSIAN WORK	RUSSIAN WORK							
8	RUSSIAN WORK	RUSSIAN WORK							
9	RUSSIAN WORK	RUSSIAN WORK							
10	RUSSIAN WORK	RUSSIAN WORK							
11	RUSSIAN WORK	RUSSIAN WORK							
12	RUSSIAN WORK	RUSSIAN WORK							
13	RUSSIAN WORK	RUSSIAN WORK							
14	RUSSIAN WORK	RUSSIAN WORK							
15	RUSSIAN WORK	RUSSIAN WORK							
16	RUSSIAN WORK	RUSSIAN WORK							
17	RUSSIAN WORK	RUSSIAN WORK							
18	RUSSIAN WORK	RUSSIAN WORK							
19	RUSSIAN WORK	RUSSIAN WORK							
20	RUSSIAN WORK	RUSSIAN WORK							
21	RUSSIAN WORK	RUSSIAN WORK							
22	RUSSIAN WORK	RUSSIAN WORK							
23	RUSSIAN WORK	RUSSIAN WORK							
24	RUSSIAN WORK	RUSSIAN WORK							
25	RUSSIAN WORK	RUSSIAN WORK							
26	RUSSIAN WORK	RUSSIAN WORK							
27	RUSSIAN WORK	RUSSIAN WORK							
28	RUSSIAN WORK	RUSSIAN WORK							
29	RUSSIAN WORK	RUSSIAN WORK							
30	RUSSIAN WORK	RUSSIAN WORK							
31	RUSSIAN WORK	RUSSIAN WORK							
32	RUSSIAN WORK	RUSSIAN WORK							
33	RUSSIAN WORK	RUSSIAN WORK							
34	RUSSIAN WORK	RUSSIAN WORK							
35	RUSSIAN WORK	RUSSIAN WORK							
36	RUSSIAN WORK	RUSSIAN WORK							
37	RUSSIAN WORK	RUSSIAN WORK							
38	RUSSIAN WORK	RUSSIAN WORK							
39	RUSSIAN WORK	RUSSIAN WORK							
40	RUSSIAN WORK	RUSSIAN WORK							
41	RUSSIAN WORK	RUSSIAN WORK							
42	RUSSIAN WORK	RUSSIAN WORK							
43	RUSSIAN WORK	RUSSIAN WORK							
44	RUSSIAN WORK	RUSSIAN WORK							
45	RUSSIAN WORK	RUSSIAN WORK							
46	RUSSIAN WORK	RUSSIAN WORK							
47	RUSSIAN WORK	RUSSIAN WORK							
48	RUSSIAN WORK	RUSSIAN WORK							
49	RUSSIAN WORK	RUSSIAN WORK							
50	RUSSIAN WORK	RUSSIAN WORK							
51	RUSSIAN WORK	RUSSIAN WORK							
52	RUSSIAN WORK	RUSSIAN WORK							
53	RUSSIAN WORK	RUSSIAN WORK							
54	RUSSIAN WORK	RUSSIAN WORK							
55	RUSSIAN WORK	RUSSIAN WORK							
56	RUSSIAN WORK	RUSSIAN WORK							
57	RUSSIAN WORK	RUSSIAN WORK							
58	RUSSIAN WORK	RUSSIAN WORK							
59	RUSSIAN WORK	RUSSIAN WORK							
60	RUSSIAN WORK	RUSSIAN WORK							
61	RUSSIAN WORK	RUSSIAN WORK							
62	RUSSIAN WORK	RUSSIAN WORK							
63	RUSSIAN WORK	RUSSIAN WORK							
64	RUSSIAN WORK	RUSSIAN WORK							
65	RUSSIAN WORK	RUSSIAN WORK							
66	RUSSIAN WORK	RUSSIAN WORK							
67	RUSSIAN WORK	RUSSIAN WORK							
68	RUSSIAN WORK	RUSSIAN WORK							
69	RUSSIAN WORK	RUSSIAN WORK							
70	RUSSIAN WORK	RUSSIAN WORK							
71	RUSSIAN WORK	RUSSIAN WORK							
72	RUSSIAN WORK	RUSSIAN WORK							
73	RUSSIAN WORK	RUSSIAN WORK							
74	RUSSIAN WORK	RUSSIAN WORK							
75	RUSSIAN WORK	RUSSIAN WORK							
76	RUSSIAN WORK	RUSSIAN WORK							
77	RUSSIAN WORK	RUSSIAN WORK							
78	RUSSIAN WORK	RUSSIAN WORK							
79	RUSSIAN WORK	RUSSIAN WORK							
80	RUSSIAN WORK	RUSSIAN WORK							
81	RUSSIAN WORK	RUSSIAN WORK							
82	RUSSIAN WORK	RUSSIAN WORK							
83	RUSSIAN WORK	RUSSIAN WORK							
84	RUSSIAN WORK	RUSSIAN WORK							
85	RUSSIAN WORK	RUSSIAN WORK							
86	RUSSIAN WORK	RUSSIAN WORK							
87	RUSSIAN WORK	RUSSIAN WORK							
88	RUSSIAN WORK	RUSSIAN WORK							
89	RUSSIAN WORK	RUSSIAN WORK							
90	RUSSIAN WORK	RUSSIAN WORK							
91	RUSSIAN WORK	RUSSIAN WORK							
92	RUSSIAN WORK	RUSSIAN WORK							
93	RUSSIAN WORK	RUSSIAN WORK							
94	RUSSIAN WORK	RUSSIAN WORK							
95	RUSSIAN WORK	RUSSIAN WORK							
96	RUSSIAN WORK	RUSSIAN WORK							
97	RUSSIAN WORK	RUSSIAN WORK							
98	RUSSIAN WORK	RUSSIAN WORK							
99	RUSSIAN WORK	RUSSIAN WORK							
100	RUSSIAN WORK	RUSSIAN WORK							

An Agent of a Participle  
Figure 32

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD				
AGENT		NOUN	АГЕНТ	004-0466	ND11M000				
AGENT		NOUN	АГЕНТ	004-0467	ND11M000				
AGENT		NOUN	АГЕНТ	004-0468	ND11M100				
AGENT		NOUN	АГЕНТ	004-0469	VN 0P30000				
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL						
AGENT		00	32	004-0466	ND11M000				
AGENT		00	36	004-0467	ND11M000				
AGENT		00	30	004-0468	ND11M100				
AGENT		00	34	004-0469	VN 0P30000				
HINDSIGHT									
		004-0466	ND11M000						
		004-0468	ND11M100						
UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
AGENT		NOUN	АГЕНТ	004-0466	ND11M000	N-A	PU	066015000000	
AGENT		NOUN	АГЕНТ	004-0467	ND11M000	-G		022500000000	
AGENT		NOUN	АГЕНТ	004-0468	ND11M100	-M		051900000000	
AGENT		NOUN	АГЕНТ	004-0469	VN 0P30000	-I	B1B4B5	197400000000	
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL						
AGENT		00	32	004-0466	ND11M000	N-A	R4	465 SUBJECT	
AGENT		00	36	004-0467	ND11M000	-G		466 N COMP	
AGENT		00	30	004-0468	ND11M100	-M		466 AGENT	
AGENT		00	34	004-0469	VN 0P30000	-I	B1B4B5	465 V PRED	
HINDSIGHT									
		004-0466	ND11M000						
		004-0468	ND11M100						
UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD	INTERSECTING ARGUMENTS	ALTERNATIVE		
AGENT		NOUN	АГЕНТ	004-0466	ND11M000	-A	ROLE		
AGENT		NOUN	АГЕНТ	004-0468	ND11M100	-I	ROLE		
AGENT		NOUN	АГЕНТ	004-0466	ND11M000	-A	R4	465 L OBJ	
AGENT		NOUN	АГЕНТ	004-0468	ND11M100	-I		465 L OBJ	
SYNTACTIC ROLE									
							465	SUBJECT	
							466	N COMP	
							466	AGENT	
							465	V PRED	
ALTERNATIVE									
							465	L	OBJ
							465	L	OBJ

An Agent of a Noun  
Figure 33

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO	
MOVING	AC2	PERAZOV-SHCH	AC2-0246	AC2-0246	N-----	0000		122400000000	
MOVING	AC2	PERAZOV-SHCH	AC2-0247	AC2-0247	N-----	P2		189802000000	
MOVING	AC2	PERAZOV-SHCH	AC2-0248	AC2-0248	N-----	P9		197018750000	
MOVING	AC2	PERAZOV-SHCH	AC2-0249	AC2-0249	N-----	P9		154371666666	
MOVING	AC2	PERAZOV-SHCH	AC2-0250	AC2-0250	N-----	P9		125210000000	
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT			SYNTACTIC ROLE	
MOVING	AC2	PERAZOV-SHCH	01	31	N-----			245 SUBJECT	
MOVING	AC2	PERAZOV-SHCH	02	37	N-----			246 SUBJECT	
MOVING	AC2	PERAZOV-SHCH	03	35	N-----			245 V PRED	
MOVING	AC2	PERAZOV-SHCH	04	24	N-----			INF ADVB	
MOVING	AC2	PERAZOV-SHCH	05	24	N-----			248 AGENT	
HINDSIGHT									
					INTERSECTING ARGUMENTS			ALTERNATIVE ROLE	
MOVING	AC2	PERAZOV-SHCH	0000000000	000	N-----			245 L OBJ	
MOVING	AC2	PERAZOV-SHCH	0000000000	000	N-----			245 IND OBJ	

An Analysis Not Recognizing a Copulative Verb  
Figure 34

### An Analysis with Agent-object Ambiguity

Figure 35



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd WORD	DICTIONARY SERIAL NO.	
BF	V21.00	BYL-U	00K-0508	VN 3000000 3	SSS---AND-	B3		010806666666	
BIT	AC1.00	POLOZHEN-O	00K-0509	AD00000 230	N-----	P300		150400000000	
FUNDAMENTAL	AC2.00	FUNDAMENTAL N-VVI	00K-0510	AD00000 0	N-----			211027500000	
MARK	NC4.00	AGENT-AVI	00K-0511	MD12F100	I-----			166600000000	
ANALYZED TEXT									
	CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE					
BF	00 17	00K-0508	VN 3000000 3	SSS000AND0	B3			III	V PRED
BIT	00 06	00K-0509	AD00000 230	N-----	R400			508	V COMP
FUNDAMENTAL	00 09	00K-0510	AD00000 0	N-----				509	AGENT
MARK	00 10	00K-0511	MD12F100	I-----				510	AGENT M

A Verb Complement of a Form of BYT' (быть)  
Figure 37

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO		
1	PC1	1-1	1	PC1 K STP 0	-G-----	600000000000	000140000000		
2	PC2	1-2	2	PC2 K STP 0	-G-----	600000000000	110823750000		
3	PC3	1-3	3	PC3 K STP 0	-G-----	600000000000	256510000000		
4	PC4	1-4	4	PC4 K STP 0	-G-----	600000000000	045676666666		
5	PC5	1-5	5	PC5 K STP 0	-G-----	600000000000	053870000000		
ANALYZED TEXT									
CHAIN NO		SIZE OF POOL		PREFERRED ARGUMENT		SYNTACTIC ROLE			
1	1	1	1	-G-----	-G-----	600000000000	INF PREP		
2	2	2	2	-G-----	-G-----	600000000000	88 N COMP		
3	3	3	3	-G-----	-G-----	600000000000	85 V PREP		
4	4	4	4	-G-----	-G-----	600000000000	88 OBJECT		
5	5	5	5	-G-----	-G-----	600000000000	89 OBJECTN		
HINDSIGHT									
CHAIN NO		SIZE OF POOL		INTERSECTING ARGUMENTS		ALTERNATIVE ROLE			
1	1	1	1	-G-----	-G-----	600000000000	88 L OBJ		
2	2	2	2	-G-----	-G-----	600000000000	88 OBJECT		
3	3	3	3	-G-----	-G-----	600000000000	85 SUBJECT		
4	4	4	4	-G-----	-G-----	600000000000	85 SUBJECT		

A Nominative Object of a Form of BYT' (быть)  
Figure 38

FIRST ENGLISH EQUIVALENT		CLASS RUSSIAN WORD MARKER (TRANSLITERATED)		UNANALYZED TEXT				ANALYZED TEXT		HINDSIGHT	
				TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	SYNTACTIC ROLE			
IT	IT	P01.00 ON-		\$ -0045	PN K STP 0	N-----M-----		111 SUBJECT			
LF	LF	V20.00 XCH-ET		\$ -0046	VN OP30000 0	-----BAD-----	P9 B1	111 V PRED			
STUDENT	STUDENT	V21.00 BY-T		\$ -0047	VN 3000000 3	F-----M-----	B0	084 V MAST			
..	..	N01.00 STUDENT-OM		\$ -0048	NDALH000	-----I-----		087 OBJECT			
				\$ -0049				END OF SENT.			
IT	IT	P01.00 ON-		\$ -0045	PN K STP 0	N-----M-----		111 SUBJECT			
LF	LF	V20.00 XCH-ET		\$ -0046	VN OP30000 0	-----BAD-----	P9 B1	111 V PRED			
STUDENT	STUDENT	V21.00 BY-T		\$ -0047	VN 3000000 3	F-----M-----	B0	084 V MAST			
..	..	N01.00 STUDENT-OM		\$ -0048	NDALH000	-----I-----		087 OBJECT			
				\$ -0049				END OF SENT.			

An Instrumental Object of a Form of BYT' (6yTb)  
Figure 39

A Predicate Adjective Following a Form of BYT' (БУТЬ)  
Figure 40

A Predicate Adjective Following a Form of BYT' (БУТЬ)  
Figure 40

Figure 47

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
FORMAL	A02.00	FORMALIN-O	00K-0420	AD00000 2 0	N-----		20936666666		
IF	101.00	FSL-I	00K-0421	C		P9	05652000000		
IF IMPORTANT	102.00	ZADAVA-T-SJA	00K-0422	VNR0P80000	FR	B0B4	06087000000		
ONLY	101.00	TOL-K-U	00K-0423	C			19815250000		
ONLY	101.00	TOL-K-U	00K-0424	C			19815000000		
ELUCIDATION	N10.00	VYJASNENI-EW	00K-0425	NDIING000		P4	03962000000		
MATHEMATICAL	A04.00	MATFEMATICHES K-O	00K-0426	AD00000 0	-G-CIP-----		10471400000		
PICTURE	N04.00	KARTIN-Y	00K-0427	NDIIF000	-G-----N-A--		08652000000		
APPEARANCE	N10.00	JAVLENI-J	00K-0428	NDIING00	-G-----N--	P4	21926000000		
PRECISE	A02.00	TOLHN-U	00K-0429	AD00000 2 0	N-----		19872000000		
AS THOUGH	101.00	TOLHN-U	00K-0430	C			19871500000		
EMPHATIC	101.00	TAK-F	00K-0431	C			19527000000		
AFTER ALL	101.00	ZM-F	00K-0432	C			05650000000		
FLOW	101.00	PRUTEKA-JUT	00K-0433	VN 3000000	-----TBAD-	B0B1B4B6	05650000000		
AND	101.00	-I	00K-0434	C			16426333333		
ALSO	101.00	-I	00K-0435	KDK1000 0	-----N-A--		00009000000		
UTHER	A08.00	PRUG-IE	00K-0436	NDIING00	-G-----N-A--	P4	00008500000		
APPEARANCE	N10.00	JAVLENI-JA	00K-0437	NDIING00	-G-----N-A--		05570000000		
			00K-0437				21926000000		
ANALYZED TEXT									
FORMAL	CLASS MARKER	RUSSIAN WORD	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE			
IF	A02.00	FORMALIN-O	00 18	00K-0420	AD00000 2 0	N-----	111	A	PRED
IF	101.00	FSL-I	00 05	00K-0421	C		INF	COMMA	
IF IMPORTANT	102.00	ZADAVA-T-SJA	00 17	00K-0422			421K	R	CONJ
ONLY	101.00	TOL-K-U	00 14	00K-0423	VNR0P80000	FR	422	T	PRED
ONLY	101.00	TOL-K-U	00 11	00K-0424	C		INF	ADVB	
ELUCIDATION	N10.00	VYJASNENI-EW	00 11	00K-0425	NDIING000		423	OBJECT	
MATHEMATICAL	A04.00	MATFEMATICHES K-O	00 14	00K-0426	AD00000 0		425	N	COMP
PICTURE	N04.00	KARTIN-Y	00 18	00K-0427	NDIIF000		426	N	COMP
APPEARANCE	N10.00	JAVLENI-J	00 19	00K-0428	NDIING00		427	N	COMP
			00 22	00K-0429	C		INF	COMMA	
AS THOUGH	101.00	TOLHN-U	00 33	00K-0430	C		429K	R	CONJ
EMPHATIC	101.00	TAK-F	00 24	00K-0431	C		INF	ADVB	
FLOW	101.00	PRUTEKA-JUT	00 24	00K-0432	C		INF	ADVB	
AND	101.00	-I	00 26	00K-0433	VN 3000000	00000TBAD0	430	V	PRED
UTHER	A08.00	PRUG-IE	00 26	00K-0434	C		INF	CONJUNCT	
APPEARANCE	N10.00	JAVLENI-JA	00 27	00K-0435	ADKING00 0	-----A--	433	OBJECT	
			00 30	00K-0436	NDIING00	-----A--	435	OBJECT	
			00 31	00K-0437			FND	OF SENT.	

The Analysis of a Short-form Adjective-adverb Homograph  
and a Relative Conjunction-adverb Homograph

Figure 42

HINDSIGHT				INTERSECTING ARGUMENTS		ALTERNATIVE ROLE
FORMAL	A02.00	FORMAL.N-0	00K-0420	AD00000	0	INF ADVB
..	..	..	00K-0421	.		INF CLAUSER
..	..	..	00K-0421	.		INF CONJUNCT
OF IMPORANT	V12.00	ZAGAVA-T.SJA	00K-0423	VN0P00000		422 SUBJECT
MATHEMATICAL	A04.00	MATHEMATISCHE K-00	00K-0426	AD00000	0	425 AGENT
..	..	..	00K-0429	.		INF CLAUSER
..	..	..	00K-0429	.		INF CONJUNCT
PRECISE	A02.00	TECHN-0	00K-0430	AD00000	0	INF ADVB
STER ALL	101.00	7H-F	00K-0432	H		INF ADVB
ALSO	101.00	-I	00K-0434	H		INF ADVB
UTHER	AGM.00	PRUG-IE	00K-0435	NDK1000	0	INF ADVB
UTHER	AGM.00	PRUG-IE	00K-0435	NDK1000	0	435 OBJECT
UTHER	AGM.00	PRUG-IE	00K-0435	NDK1000	0	430 SUBJECT
APPEARANCE	N1A.00	JAVIEN-I-JA	00K-0436	W0110000		430 SUBJECT
PREDICTION	W1P0	435012010X1A	000000000000	AD1100000000		43C SUBJECT
PREDICTION	W1P0	11112070X1A	NC0000000000	NC1A00000000		43C SUBJECT

Figure 42 (continued)





UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
1. NOT	P01.00	ON-A	\$ -0177	PN K STP 0	N-----F-----			1267720000002	
2. WISH	101.00	N-E	\$ -0178	PN K STP 0	N-----F-----			1108100000000	
3. READ	V20.00	XOTFL-A	\$ -0179	VN OP5000*0	SSS---AFD-	P9 B3		211416071426	
4. BOOK	V01.00	CHITA-T,	\$ -0180	VN OP7000*0	F-	808486		213802142855	
5. ..	N04.10	KNIG-I	\$ -0181	ND11F000	-G---N-A---F-----F-----			0891500000000	
6. ..		..	\$ -0182						*
ANALYZED TEXT									
	CHAIN NO.	SIZE OF POOL		PREFERRED ARGUMENT				SYNTACTIC ROLE	
1. NOT	00 18 \$	-0177	PN K STP 0	N-----F-----				III SUBJECT	
2. WISH	00 09 \$	-0178	VN K STP 0	N-----F-----				INF NEGATIVE	
3. READ	00 09 \$	-0179	VN OP5000*0	SSS000AFD0	P9 B3			III V PRED	N
4. BOOK	00 06 \$	-0180	VN OP7000*0	F0	808486			179 V MAST	N
5. ..	00 07 \$	-0181	ND11F000	-G-----A---F-----F-----				END OBJECT	
6. ..	00 10 \$	-0182						END OF SENT.	
HINDSIGHT									
PREDICTION	WIPED	---	179012000650	06000000000 000	02JECT	\$ -0182			END OF SENT.

An Object of a Negated Verb with Case and Number Ambiguity  
Figure 45

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
FACE	NOT.00	CHITATEL--	00H-0114	ND11M000	N-----			213807142850	
NOT	101.00	N-E	00H-0115	HN				110810000000	
FACE	VIA.00	NAJD-EI	00H-0116	V500P300V0		P5 B2B4		112443165262	
IN	101.00	-V	00H-0117	P	--T---CAD-			000020000000	
COLLECTION	NOT.10	SPONIK-E	00H-0118	ND11M000	--A--P--A--P	PAORONAB0650		180115000000	
SYSTEMATIC	ADA.00	SYSTEMATICHF SK-OGN	00H-0119	AD00N000	-----M-----			184447142656	
ACCOUNT	NIA.00	IZLOZHENI-JA	00H-0120	AD00N000	-G-----N-A-----			075737500000	
THEORY	NOT.00	TEORI-I	00H-0121	ND11F000	-G-C-PN-A--	P4		197170000000	
AND	101.00	-I	00H-0122	C	-----F-F-EF-F--			0000P0000000	
ALSO	101.00	-I	00H-0123	M	-----N-----			0000P5000000	
TECHNICAL	NOT.10	TEANIK-I	00H-0124	ND11F100	-----M-----			197710000000	
TECHNOLOGY	NOT.10	TEANIK-I	00H-0125	AD00N000	-G-----N-A-----			197720000000	
STRIP	ADA.00	POLOSKOV-YX	00H-0126	AD00N000	-----GA--P-----			150576666666	
LINE	NOT.00	LIN-IU	00H-0127	ND11F000	-----G-----			100110000000	
..									
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT			SYNTACTIC ROLE	
FACE	NOT.00	CHITATEL--	00 18	00H-0114	N-----			111 SUBJECT	
NOT	101.00	N-E	00 09	00H-0115				11F NEGATIVE	
FACE	VIA.00	NAJD-EI	00 09	00H-0116	00T00G000	P5 B2B4		111 V PREP	
IN	101.00	-V	00 07	00H-0117	--A--P--A--P	PAORONAB0650		11F PREP	
COLLECTION	NOT.10	SPONIK-E	00 10	00H-0118	-----M-----			137 R COMP	
SYSTEMATIC	ADA.00	SYSTEMATICHF SK-OGN	00 13	00H-0119	-----B-----			138 N COMP	
ACCOUNT	NIA.00	IZLOZHENI-JA	00 17	00H-0120	-G-----N-----	R4		139 N COMPM	
THEORY	NOT.00	TEORI-I	00 19	00H-0121	-G-----F-----			140 N COMP	
AND	101.00	-I	00 21	00H-0122				11F CONJUNCT	
ALSO	101.00	-I	00 21	00H-0123	-G-----F-----			141C N COMP	
TECHNICAL	NOT.10	TEANIK-I	00 23	00H-0124	-G-----N-----			143 N COMP	
TECHNOLOGY	ADA.00	POLOSKOV-YX	00 27	00H-0125	-----G-----			144 N COMPM	
STRIP	NOT.00	LIN-IU	00 27	00H-0126	-----F-----			END OF SENT.	
..									
HINDSIGHT									
					INTERSECTING ARGUMENTS			ALTERNATIVE ROLE	
SYSTEMATIC	ADA.00	SYSTEMATICHF SK-OGN	00H-0119	AD00N000	-GA-----			136 OBJECT	
ACCOUNT	NIA.00	IZLOZHENI-JA	00H-0120	ND11F000	-G-----A-----			136 OBJECT	
THEORY	NOT.00	TEORI-I	00H-0121	ND11F000	-G-----F-----	R4		136 OBJECT	
ALSO	101.00	-I	00H-0122	C	-----F-----			131 IND OBJ	
TECHNOLOGY	NOT.10	TEANIK-I	00H-0123	ND11F100	-G-----F-----			11F ADVB	
TECHNOLOGY	NOT.10	TEANIK-I	00H-0124	ND11F100	-G-----A-----			139C N COMP	
STRIP	ADA.00	POLOSKOV-YX	00H-0125	AD00N000	-----GA--P-----			136 OBJECT	
LINE	NOT.00	LIN-IU	00H-0126	ND11F000	-----F-----			136 OBJECT	
PREDICTION	WIPER	136712018650	000	000	-----G-----			END OF SENT.	
..									

An Analysis with Object-noun Complement Ambiguity  
Figure 46

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
AF	P01.00	M-Y	CUU-0300	PN A PVP 0	---	---		10231333338	
AFND	V04.00	MAAD-IM	CUU-0301	VN00P30000	---	---		115800270270	
AFGLV	I01.00	VESAM-A	CUU-0302	M	---	---	F5 B1B4	014040000000	
AFMPF	A03.00	PROST-U	CUU-0303	AP00000 0	N-	---	P4	104170000000	
AFPRESSION	M10.00	VYRAZHENI-E	CUU-0304	MDI1N000	N-A	---	P4	036050000000	
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL			PREFERRED ARGUMENT			SYNTACTIC ROLE	
AF	00 18	00U-0300	PN A PVP 0	---	---	---		111	SUBJECT
AFND	00 02	00U-0301	VN00P30000	---	---	---	E5 B1B4	111	V PRED
AFGLV	00 06	00U-0302	M	---	000V00B00	---	---	11F	ADVB
AFMPF	00 06	00U-0303	AP00000 0	---	N-	---	---	11F	ADVB
AFPRESSION	00 08	00U-0304	MDI1N000	---	-A	---	---	Y01	OBJECT

A "Subject - Predicate - Object" Clause

Figure 47

UNANALYZED TEXT									
CLASS MARKER		RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
PRACTICAL	AOA.00	PRAKTICHESK- OE	00H-0368	AD000000	0		194371666666		
REALIZATION	NIA.00	OSUSHCHFSTVL ENI-E	00H-0369	ND11N000	0	P4	130345000000		
STRIP	AOA.00	POLSKOV-YX	00H-0370	AD000000	0		150546666666		
NOT	NOI.20	UZ-UV	00H-0371	ND11N000	0		2028P0000000		
DIFFER	VOI.00	UTLCHA-ETSJ A	00H-0372	VNR0P00000	0	BOB184B6	152347500000		
LARGE	AOA.00	BOLSH-CJ	00H-0373	AD010000	0		009100000000		
SIMPLICITY	NOA.00	PROSTOT-CJ	00H-0374	ND12F100	0		1841P00000000		
ANALYZED TEXT									
			CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE			
PRACTICAL	AOA.00	PRAKTICHESK- OE	00	20	00H-0368	AD000000	0	N-----	367 SUBJECT
REALIZATION	NIA.00	OSUSHCHFSTVL ENI-E	00	23	00H-0369	ND11N000	0	N-----	368 SUBJECTH
STRIP	AOA.00	POLSKOV-YX	00	24	00H-0370	AD000000	0	N-----	369 N COMP
NOT	NOI.20	UZ-UV	00	28	00H-0371	ND11N000	0	N-----	370 N COMP
DIFFER	VOI.00	UTLCHA-ETSJ A	00	28	00H-0372	VNR0P00000	0	N-----	371 V PRED
LARGE	AOA.00	BOLSH-CJ	00	17	00H-0373	AD010000	0	N-----	372 OBJECT
SIMPLICITY	NOA.00	PROSTOT-CJ	00	20	00H-0374	ND12F100	0	N-----	373 OBJECTH
HINDSIGHT									
						INTERSECTING ARGUMENTS	ALTERNATIVE ROLE		
PRACTICAL	AOA.00	PRAKTICHESK- OE				AD000000	0	367	L OBJ
REALIZATION	NIA.00	OSUSHCHFSTVL ENI-E				ND11N000	0	367	L OBJ
STRIP	AOA.00	POLSKOV-YX				AD000000	0	367	L OBJ
LARGE	AOA.00	BOLSH-CJ				AD010000	0	367	L OBJ

A "Subject - Predicate - Object" Clause  
Figure 48

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI ORGANIZED WORD	3rd WORD	DICIONARY SERIAL NO.	
WIFE	VIB-00	ЖЕНА	CUJ-0518	VS00000000	F-		B0R4B4	045010000000	
POSSIBILITY	NOA-00	ВОЗМОЖНОСТЬ	CUJ-0519	PI115000	N-A-----		P209	021500416665	
CHECK	VOU-01	ПРОВЕРИТЬ	CUJ-0520	VS 0030000	F-		B0B6	160900000000	
ANAL	POI-00	УСЛ	CUJ-0521	PK K ATF 0	N-A-----			027450000000	
TRUST	POI-00	УСЛ	CUJ-0522	PK K ATF 0	N-A-----			218919583332	
CONSPIRACY	NIO-00	ЗАКЛЮЧЕНИЕ	CUJ-0523	PI114000	N-A-----		P4	062800000000	
ANALYSIS	NOA-00	АНАЛИЗ	CUJ-0524	PI114000	N-A-----			002500000000	
TRUST	POI-00	УСЛ	CUJ-0525	AF000000	N-A-----			193005000000	
TRUST	POI-00	УСЛ	CUJ-0526	AF000000	N-A-----			000000000000	
TRUST	POI-00	УСЛ	CUJ-0527	AF000000	N-A-----			000000000000	
TRUST	POI-00	УСЛ	CUJ-0528	AF000000	N-A-----			184170000000	
TRUST	POI-00	УСЛ	CUJ-0529	AF000000	N-A-----			055300000000	
TRUST	POI-00	УСЛ	CUJ-0530	AF000000	N-A-----			051970000000	
TRUST	POI-00	УСЛ	CUJ-0531	AF000000	N-A-----			009050000000	
TRUST	POI-00	УСЛ	CUJ-0532	AF000000	N-A-----			212800000000	
TRUST	POI-00	УСЛ	CUJ-0533	AF000000	N-A-----			207300000000	
TRUST	POI-00	УСЛ	CUJ-0534	AF000000	N-A-----			056510000000	
TRUST	POI-00	УСЛ	CUJ-0535	AF000000	N-A-----			001100000000	
TRUST	POI-00	УСЛ	CUJ-0536	AF000000	N-A-----			214020000000	
TRUST	POI-00	УСЛ	CUJ-0537	AF000000	N-A-----			000020000000	
TRUST	POI-00	УСЛ	CUJ-0538	AF000000	N-A-----			190300000000	
TRUST	POI-00	УСЛ	CUJ-0539	AF000000	N-A-----			218300000000	
TRUST	POI-00	УСЛ	CUJ-0540	AF000000	N-A-----			075730000000	
TRUST	POI-00	УСЛ	CUJ-0541	AF000000	N-A-----			197170000000	
TRUST	POI-00	УСЛ	CUJ-0542	AF000000	N-A-----			013500000000	
TRUST	POI-00	УСЛ	CUJ-0543	AF000000	N-A-----				
TRUST	POI-00	УСЛ	CUJ-0544	AF000000	N-A-----				

A Clause with an Infinitive Verb Subject  
Figure 49



Figure 49 (continued)

[illegible]

An "Object - Predicate - Subject" Clause

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD	TRANSLITERATED	TEXT SERIAL NO	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	DICTIONARY SERIAL NO	
1. NOUN	N	МАШИНА	MA-SHI-NA	001-00000	MA-SHI-NA	---	01	045000000000	
2. VERB	V	ЕХАЕТ	EH-AET	002-00000	EH-AET	---		130000000000	
3. ADJECTIVE	A	СВОЙ	SVOY	003-00000	SVOY	---		192000000000	
4. PREPOSITION	P	НА	NA	004-00000	NA	---		197100000000	
5. CONJUNCTION	C	И	I	005-00000	I	---		051000000000	
6. INTERJECTION	INT	О	O	006-00000	O	---			
7. PARTICLE	PT	ТО	TO	007-00000	TO	---			
8. PRONOUN	PR	ОН	ON	008-00000	ON	---			
9. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	009-00000	ZHE-SY	---			
10. NUMERAL	NUM	ОДИН	ODIN	010-00000	ODIN	---			
11. QUESTION WORD	QW	КАК	KA-K	011-00000	KA-K	---			
12. RELATIVE WORD	RW	КТО	KTO	012-00000	KTO	---			
13. INFINITIVE	INF	ЕХАТЬ	EH-AT	013-00000	EH-AT	---			
14. GERUND	GER	ЕХАЯ	EH-A	014-00000	EH-A	---			
15. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	015-00000	EH-AUCHIY	---			
16. ADJECTIVE	A	СВОЯ	SVOYA	016-00000	SVOYA	---			
17. NOUN	N	МАШИНА	MA-SHI-NA	017-00000	MA-SHI-NA	---			
18. VERB	V	ЕХАЕТ	EH-AET	018-00000	EH-AET	---			
19. ADJECTIVE	A	СВОЯ	SVOYA	019-00000	SVOYA	---			
20. PREPOSITION	P	НА	NA	020-00000	NA	---			
21. CONJUNCTION	C	И	I	021-00000	I	---			
22. INTERJECTION	INT	О	O	022-00000	O	---			
23. PARTICLE	PT	ТО	TO	023-00000	TO	---			
24. PRONOUN	PR	ОН	ON	024-00000	ON	---			
25. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	025-00000	ZHE-SY	---			
26. NUMERAL	NUM	ОДИН	ODIN	026-00000	ODIN	---			
27. QUESTION WORD	QW	КАК	KA-K	027-00000	KA-K	---			
28. RELATIVE WORD	RW	КТО	KTO	028-00000	KTO	---			
29. INFINITIVE	INF	ЕХАТЬ	EH-AT	029-00000	EH-AT	---			
30. GERUND	GER	ЕХАЯ	EH-A	030-00000	EH-A	---			
31. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	031-00000	EH-AUCHIY	---			
32. ADJECTIVE	A	СВОЯ	SVOYA	032-00000	SVOYA	---			
33. NOUN	N	МАШИНА	MA-SHI-NA	033-00000	MA-SHI-NA	---			
34. VERB	V	ЕХАЕТ	EH-AET	034-00000	EH-AET	---			
35. ADJECTIVE	A	СВОЯ	SVOYA	035-00000	SVOYA	---			
36. PREPOSITION	P	НА	NA	036-00000	NA	---			
37. CONJUNCTION	C	И	I	037-00000	I	---			
38. INTERJECTION	INT	О	O	038-00000	O	---			
39. PARTICLE	PT	ТО	TO	039-00000	TO	---			
40. PRONOUN	PR	ОН	ON	040-00000	ON	---			
41. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	041-00000	ZHE-SY	---			
42. NUMERAL	NUM	ОДИН	ODIN	042-00000	ODIN	---			
43. QUESTION WORD	QW	КАК	KA-K	043-00000	KA-K	---			
44. RELATIVE WORD	RW	КТО	KTO	044-00000	KTO	---			
45. INFINITIVE	INF	ЕХАТЬ	EH-AT	045-00000	EH-AT	---			
46. GERUND	GER	ЕХАЯ	EH-A	046-00000	EH-A	---			
47. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	047-00000	EH-AUCHIY	---			
48. ADJECTIVE	A	СВОЯ	SVOYA	048-00000	SVOYA	---			
49. NOUN	N	МАШИНА	MA-SHI-NA	049-00000	MA-SHI-NA	---			
50. VERB	V	ЕХАЕТ	EH-AET	050-00000	EH-AET	---			
51. ADJECTIVE	A	СВОЯ	SVOYA	051-00000	SVOYA	---			
52. PREPOSITION	P	НА	NA	052-00000	NA	---			
53. CONJUNCTION	C	И	I	053-00000	I	---			
54. INTERJECTION	INT	О	O	054-00000	O	---			
55. PARTICLE	PT	ТО	TO	055-00000	TO	---			
56. PRONOUN	PR	ОН	ON	056-00000	ON	---			
57. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	057-00000	ZHE-SY	---			
58. NUMERAL	NUM	ОДИН	ODIN	058-00000	ODIN	---			
59. QUESTION WORD	QW	КАК	KA-K	059-00000	KA-K	---			
60. RELATIVE WORD	RW	КТО	KTO	060-00000	KTO	---			
61. INFINITIVE	INF	ЕХАТЬ	EH-AT	061-00000	EH-AT	---			
62. GERUND	GER	ЕХАЯ	EH-A	062-00000	EH-A	---			
63. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	063-00000	EH-AUCHIY	---			
64. ADJECTIVE	A	СВОЯ	SVOYA	064-00000	SVOYA	---			
65. NOUN	N	МАШИНА	MA-SHI-NA	065-00000	MA-SHI-NA	---			
66. VERB	V	ЕХАЕТ	EH-AET	066-00000	EH-AET	---			
67. ADJECTIVE	A	СВОЯ	SVOYA	067-00000	SVOYA	---			
68. PREPOSITION	P	НА	NA	068-00000	NA	---			
69. CONJUNCTION	C	И	I	069-00000	I	---			
70. INTERJECTION	INT	О	O	070-00000	O	---			
71. PARTICLE	PT	ТО	TO	071-00000	TO	---			
72. PRONOUN	PR	ОН	ON	072-00000	ON	---			
73. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	073-00000	ZHE-SY	---			
74. NUMERAL	NUM	ОДИН	ODIN	074-00000	ODIN	---			
75. QUESTION WORD	QW	КАК	KA-K	075-00000	KA-K	---			
76. RELATIVE WORD	RW	КТО	KTO	076-00000	KTO	---			
77. INFINITIVE	INF	ЕХАТЬ	EH-AT	077-00000	EH-AT	---			
78. GERUND	GER	ЕХАЯ	EH-A	078-00000	EH-A	---			
79. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	079-00000	EH-AUCHIY	---			
80. ADJECTIVE	A	СВОЯ	SVOYA	080-00000	SVOYA	---			
81. NOUN	N	МАШИНА	MA-SHI-NA	081-00000	MA-SHI-NA	---			
82. VERB	V	ЕХАЕТ	EH-AET	082-00000	EH-AET	---			
83. ADJECTIVE	A	СВОЯ	SVOYA	083-00000	SVOYA	---			
84. PREPOSITION	P	НА	NA	084-00000	NA	---			
85. CONJUNCTION	C	И	I	085-00000	I	---			
86. INTERJECTION	INT	О	O	086-00000	O	---			
87. PARTICLE	PT	ТО	TO	087-00000	TO	---			
88. PRONOUN	PR	ОН	ON	088-00000	ON	---			
89. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	089-00000	ZHE-SY	---			
90. NUMERAL	NUM	ОДИН	ODIN	090-00000	ODIN	---			
91. QUESTION WORD	QW	КАК	KA-K	091-00000	KA-K	---			
92. RELATIVE WORD	RW	КТО	KTO	092-00000	KTO	---			
93. INFINITIVE	INF	ЕХАТЬ	EH-AT	093-00000	EH-AT	---			
94. GERUND	GER	ЕХАЯ	EH-A	094-00000	EH-A	---			
95. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	095-00000	EH-AUCHIY	---			
96. ADJECTIVE	A	СВОЯ	SVOYA	096-00000	SVOYA	---			
97. NOUN	N	МАШИНА	MA-SHI-NA	097-00000	MA-SHI-NA	---			
98. VERB	V	ЕХАЕТ	EH-AET	098-00000	EH-AET	---			
99. ADJECTIVE	A	СВОЯ	SVOYA	099-00000	SVOYA	---			
100. PREPOSITION	P	НА	NA	100-00000	NA	---			
101. CONJUNCTION	C	И	I	101-00000	I	---			
102. INTERJECTION	INT	О	O	102-00000	O	---			
103. PARTICLE	PT	ТО	TO	103-00000	TO	---			
104. PRONOUN	PR	ОН	ON	104-00000	ON	---			
105. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	105-00000	ZHE-SY	---			
106. NUMERAL	NUM	ОДИН	ODIN	106-00000	ODIN	---			
107. QUESTION WORD	QW	КАК	KA-K	107-00000	KA-K	---			
108. RELATIVE WORD	RW	КТО	KTO	108-00000	KTO	---			
109. INFINITIVE	INF	ЕХАТЬ	EH-AT	109-00000	EH-AT	---			
110. GERUND	GER	ЕХАЯ	EH-A	110-00000	EH-A	---			
111. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	111-00000	EH-AUCHIY	---			
112. ADJECTIVE	A	СВОЯ	SVOYA	112-00000	SVOYA	---			
113. NOUN	N	МАШИНА	MA-SHI-NA	113-00000	MA-SHI-NA	---			
114. VERB	V	ЕХАЕТ	EH-AET	114-00000	EH-AET	---			
115. ADJECTIVE	A	СВОЯ	SVOYA	115-00000	SVOYA	---			
116. PREPOSITION	P	НА	NA	116-00000	NA	---			
117. CONJUNCTION	C	И	I	117-00000	I	---			
118. INTERJECTION	INT	О	O	118-00000	O	---			
119. PARTICLE	PT	ТО	TO	119-00000	TO	---			
120. PRONOUN	PR	ОН	ON	120-00000	ON	---			
121. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	121-00000	ZHE-SY	---			
122. NUMERAL	NUM	ОДИН	ODIN	122-00000	ODIN	---			
123. QUESTION WORD	QW	КАК	KA-K	123-00000	KA-K	---			
124. RELATIVE WORD	RW	КТО	KTO	124-00000	KTO	---			
125. INFINITIVE	INF	ЕХАТЬ	EH-AT	125-00000	EH-AT	---			
126. GERUND	GER	ЕХАЯ	EH-A	126-00000	EH-A	---			
127. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	127-00000	EH-AUCHIY	---			
128. ADJECTIVE	A	СВОЯ	SVOYA	128-00000	SVOYA	---			
129. NOUN	N	МАШИНА	MA-SHI-NA	129-00000	MA-SHI-NA	---			
130. VERB	V	ЕХАЕТ	EH-AET	130-00000	EH-AET	---			
131. ADJECTIVE	A	СВОЯ	SVOYA	131-00000	SVOYA	---			
132. PREPOSITION	P	НА	NA	132-00000	NA	---			
133. CONJUNCTION	C	И	I	133-00000	I	---			
134. INTERJECTION	INT	О	O	134-00000	O	---			
135. PARTICLE	PT	ТО	TO	135-00000	TO	---			
136. PRONOUN	PR	ОН	ON	136-00000	ON	---			
137. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	137-00000	ZHE-SY	---			
138. NUMERAL	NUM	ОДИН	ODIN	138-00000	ODIN	---			
139. QUESTION WORD	QW	КАК	KA-K	139-00000	KA-K	---			
140. RELATIVE WORD	RW	КТО	KTO	140-00000	KTO	---			
141. INFINITIVE	INF	ЕХАТЬ	EH-AT	141-00000	EH-AT	---			
142. GERUND	GER	ЕХАЯ	EH-A	142-00000	EH-A	---			
143. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	143-00000	EH-AUCHIY	---			
144. ADJECTIVE	A	СВОЯ	SVOYA	144-00000	SVOYA	---			
145. NOUN	N	МАШИНА	MA-SHI-NA	145-00000	MA-SHI-NA	---			
146. VERB	V	ЕХАЕТ	EH-AET	146-00000	EH-AET	---			
147. ADJECTIVE	A	СВОЯ	SVOYA	147-00000	SVOYA	---			
148. PREPOSITION	P	НА	NA	148-00000	NA	---			
149. CONJUNCTION	C	И	I	149-00000	I	---			
150. INTERJECTION	INT	О	O	150-00000	O	---			
151. PARTICLE	PT	ТО	TO	151-00000	TO	---			
152. PRONOUN	PR	ОН	ON	152-00000	ON	---			
153. ADVERB	ADV	ЗДЕСЬ	ZHE-SY	153-00000	ZHE-SY	---			
154. NUMERAL	NUM	ОДИН	ODIN	154-00000	ODIN	---			
155. QUESTION WORD	QW	КАК	KA-K	155-00000	KA-K	---			
156. RELATIVE WORD	RW	КТО	KTO	156-00000	KTO	---			
157. INFINITIVE	INF	ЕХАТЬ	EH-AT	157-00000	EH-AT	---			
158. GERUND	GER	ЕХАЯ	EH-A	158-00000	EH-A	---			
159. PARTICIPLE	PTC	ЕХАЮЩИЙ	EH-AUCHIY	159-00000	EH-AUCHIY	---			
160. ADJECTIVE	A	СВОЯ	SVOYA	160-00000	SVOYA	---			
161. NOUN	N	МАШИНА	MA-SHI-NA						

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
МАРШ	A00000	МАРШ-И-Ю	000000	0	---A-----	---	193700000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	214500000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---GA--P	---	131500000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---G-----	---F---	150500000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	09507859183		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	045070000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	209000000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	102313333338		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	010210000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	112700000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	214500000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	150500000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	163300000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	051570000000		
АТА-А-Е	A00000	АТА-А-Е	000000	0	---A-----	---	215870000000		
ANALYZED TEXT									
CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE						
00 1A	000000	0	111 L OBJ						
00 00	000000	0	071 L OBJ						
00 00	000000	0	072 N COMP						
00 1A	000000	0	073 N COMP						
00 1A	000000	0	INF COMMA						
00 2A	000000	0	076 K SUBJECT						
00 2A	000000	0	076 V PRED						
00 1A	000000	0	077 AGENT						
00 1A	000000	0	INF \$\$\$						
00 1A	000000	0	INF COMMA						
00 25	000000	0	111 SUBJECT						
00 07	000000	0	111 V PRED						
00 05	000000	0	082 V MAST						
00 0P	000000	0	083 OBJCT						
00 0P	000000	0	084 N COMP						
00 12	000000	0	085 N COMP						
00 1A	000000	0	INF RREP						
00 1A	000000	0	087 R COMP						

A Clause with Two Objects  
Figure 52

[illegible]

UNANALYZED TEXT									
TEXT		ORGANIZED	3rd SEMIORGANIZED WORD						
SERIAL NO.		WORD	ALTERNATIVE		ARGUMENTS		DICTIONARY		SERIAL NO.
004-0169		ADANAL	0	N	F		00005000000		
004-0169		ADANAL	0	N	F		00010000000		
004-0170		ADANAL	0	N	F		21284000000		
004-0171		ADANAL	130	N	F		19205666666		
004-0172		ADANAL	130	N	F		192448421040		
004-0173		ADANAL	0	N	F		127082820510		
004-0174		ADANAL	0	N	F		17086000000		
004-0175		ADANAL	0	N	F		03736000000		
004-0176		ADANAL	0	N	F		20285000000		
ANALYZED TEXT									
CHAIN NO		SIZE OF POOL	PREFERRED		ARGUMENT		SYNTACTIC ROLE		
00 18		004-0169	ADANAL	0	N	F		111 SUBJECT	
00 10		004-0170	ADANAL	0	N	F		169 SUBJECT	
00 11		004-0171	ADANAL	1	N	F		170 N COMP	
00 14		004-0172	ADANAL	130	N	F		111 A PRED	
00 07		004-0173	ADANAL	0	N	F		172 OBJECT	
00 11		004-0174	ADANAL	0	N	F		173 N COMP	
00 15		004-0175	ADANAL	0	N	F		174 N COMP	
00 14		004-0176	ADANAL	0	N	F		175 N COMP	
HINDSIGHT									
CHAIN NO		SIZE OF POOL	INTERSECTING		ARGUMENTS		ALTERNATIVE ROLE		
004-0169		ADANAL	0	N	F		111 SUBJECT		
004-0170		ADANAL	1	N	F		111 L OBJ		
004-0173		ADANAL	0	N	F		111 IND OBJ		
004-0174		ADANAL	0	N	F		172 OBJECT		
004-0175		ADANAL	0	N	F		172 OBJECT		

A Clause with a Short-form Adjective Predicate Head  
Figure 53

[illegible]

Figure 54



An Analysis with Subject-object Ambiguity

An Analysis with Subject-object Ambiguity

Figure 56

Figure 56

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
PRECISE	A02.00	TOLHN-U	00K-04301	AD00000 2 0	N-----		198720000000		
AFTER ALL	101.00	TOLHN-U	00K-04302				198715000000		
ALSO	101.00	TAK-	00K-04303				195250000000		
OTHER	A09.00	PRUG-IE	00K-04304				056590000000		
OTHER	A09.00	PRUG-IE	00K-04305				056590000000		
APPEARANCE	A09.00	PRUG-IE	00K-04306				164263333333		
PREDICTION	N10.00	JAVLENI-JA	00K-04307				000080000000		
			00K-04308				000080000000		
			00K-04309				057900000000		
			00K-04310				212260000000		
			00K-04311						
			00K-04312						
			00K-04313						
			00K-04314						
			00K-04315						
			00K-04316						
			00K-04317						
			00K-04318						
			00K-04319						
			00K-04320						
			00K-04321						
			00K-04322						
			00K-04323						
			00K-04324						
			00K-04325						
			00K-04326						
			00K-04327						
			00K-04328						
			00K-04329						
			00K-04330						
			00K-04331						
			00K-04332						
			00K-04333						
			00K-04334						
			00K-04335						
			00K-04336						
			00K-04337						
			00K-04338						
			00K-04339						
			00K-04340						
			00K-04341						
			00K-04342						
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			00K-04344						
			00K-04345						
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			00K-04387						
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			00K-04398						
			00K-04399						
			00K-04400						
			00K-04401						
			00K-04402						
			00K-04403						
			00K-04404						
			00K-04405						
			00K-04406						
			00K-04407						
			00K-04408						
			00K-04409						
			00K-04410						
			00K-04411						
			00K-04412						
			00K-04413						
			00K-04414						
			00K-04415						
			00K-04416						
			00K-04417						
			00K-04418						
			00K-04419						
			00K-04420						
			00K-04421						
			00K-04422						
			00K-04423						
			00K-04424						
			00K-04425						
			00K-04426						
			00K-04427						
			00K-04428						
			00K-04429						
			00K-04430						
			00K-04431						
			00K-04432						
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			00K-04436						
			00K-04437						
			00K-04438						
			00K-04439						
			00K-04440						
			00K-04441						
			00K-04442						
			00K-04443						
			00K-04444						
			00K-04445						
			00K-04446						
			00K-04447						
			00K-04448						
			00K-04449						
			00K-04450						
			00K-04451						
			00K-04452						
			00K-04453						
			00K-04454						
			00K-04455						
			00K-04456						
			00K-04457						
			00K-04458						
			00K-04459						
			00K-04460						
			00K-04461						
			00K-04462						
			00K-04463						
			00K-04464						
			00K-04465						
			00K-04466						
			00K-04467						
			00K-04468						
			00K-04469						
			00K-04470						



UNANALYZED TEXT			
FIRST ENGLISH EQUIVALENT	CLASS MARKER (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD
LAUMERATE	VOU+OU PERFCHISL-IV	00K-0117	VS OP30000
AFER	DOU+OU NESKUL+K-O	00K-01181	P XEACUNYKK
SKEAAT	LOU+OU NESKUL+K-O	00K-01188	M
PROBLEF	NOU+IC ZALACH-	00K-0119	NDI4F000
ANALYZED TEXT			
CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE
00 1P	00K-0117	VS OP30000	III V PRED
00 07	00K-01181	P XEACUNYKK	III V OBJECT
00 11	00K-0119	NDI4F000	III V OBJECT
HINDSIGHT			
INTERSECTING ARGUMENTS			
00K-01181	00K-01188	VS XEACUNYKK	III V OBJECT
00K-01188	M		III V OBJECT
ALTERNATIVE			
ROLE			
00K-01181	00K-01188	VS XEACUNYKK	III V OBJECT
00K-01188	M		III V OBJECT

A Clause with No Explicit Subject and a First Person Plural Predicate Head  
Figure 59

Figure 60

Figure 60

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
CHARACTERIZE	VOI.CO	CHTOB-Y	00A-0645	VK OP30000		Pq		213850000000	
CHARACTERIZE	VOI.CO	XAPAKTEPIZOV A-T	00A-0646	AD00000 0	F-	B0B6		211100000000	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00A-0647	AD00000 0	N-----			095900000000	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00A-0648	AD00000 0	N-----			159400000000	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00A-0649	AD00000 0	-G-----	Pq		048110000000	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00A-0650	AD00000 0	-G-----			157740000000	
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT			SYNTAGMATIC ROLE	
CHARACTERIZE	VOI.CO	CHTOB-Y	00 1A	00A-0645		Pq		11CK R CONJ	
CHARACTERIZE	VOI.CO	XAPAKTEPIZOV A-T	00 15	00A-0646	F0	B0B6		645 T PRED	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00 12	00A-0647	N-----			INF ADVB	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00 12	00A-0648	N-----			646 OBJECT	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00 15	00A-0649	-G-----	Rq		648 N COMP	
CHARACTERIZE	VOI.CO	PRINTSIPI-	00 16	00A-0650	-G-----			649 N COMP	
HINDSIGHT									
					INTERSECTING ARGUMENTS			ALTERNATIVE ROLE	
CHARACTERIZE	VOI.CO	XAPAKTEPIZOV A-T		00A-0646	F0	B0B6		645 SUBJECT	

An Infinitive Predicate Head  
Figure 61



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER (TRANSLITERATED)	RUSSIAN WORD	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
1*	P01.00	-fj	\$ -0443	PN K STP 0	---C1---	---	00004-00000000		
2*	101.00	IL-T	\$ -0444	PN K STP 0	---C1---	---	07840-00000000		
3*	P01.00	-fj	\$ -0445	PN K STP 0	---C1---	---	00007-00000000		
4*	V21.00	ILL-ET	\$ -0446	VK 0000000 3	---T---XAD---	---	01021-00000000		
5*	A02.00	XCLNDN-C	\$ -0447	AD00000 3 0	N-----N	---	21134-00000000		
6*			\$ -0448						
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL							
1*	00	1P	\$ -0443	PN K STP 0	---	---	---	SYNTACTIC ROLE	
2*	00	0A	\$ -0444	PN K STP 0	---	---	---	---	---
3*	00	0A	\$ -0445	PN K STP 0	---	---	---	---	---
4*	01	07	\$ -0446	VK 0P30000 3	00T000XAD0	---	---	---	---
5*	01	03	\$ -0447	AD00000 3 0	N-----N	---	---	---	---
6*	01	04	\$ -0448					---	---
HINDSIGHT									
	CHAIN NO	SIZE OF POOL							
1*	00	1P	\$ -0443	PN K STP 0	---	---	---	ALTERNATIVE ROLE	
2*	00	0A	\$ -0444	PN K STP 0	---	---	---	---	---
3*	00	0A	\$ -0445	PN K STP 0	---	---	---	---	---
4*	01	07	\$ -0446	VK 0P30000 3	00T000XAD0	---	---	---	---
5*	01	03	\$ -0447	AD00000 3 0	N-----N	---	---	---	---
6*	01	04	\$ -0448					---	---

An Analysis with Left Object -- Indirect Object Ambiguity  
Figure 63

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
1	P	ОН-Т	0718	PN N STP 0	N-----F-----	B1B4		126772000002	
2	P	ОН-Т	0719	PN N STP 0	N-----F-----			143221111111	
3	P	ОН-Т	0720	PN N STP 0	N-----F-----			000070000000	
4	P	ОН-Т	0721	PN N STP 0	N-----F-----			143110000000	
5	P	ОН-Т	0722	PN N STP 0	N-----F-----				
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	SYNTACTIC ROLE						
1	00 18	5	0718	PN N STP 0	N-----F-----	B1B4		111	SUBJECT
2	00 06	5	0719	PN N STP 0	N-----F-----			111	V PRED
3	00 06	5	0720	PN N STP 0	N-----F-----			111	IND OBJ
4	01 07	5	0721	PN N STP 0	N-----F-----			111	ARBTR
5	01 03	5	0722	PN N STP 0	N-----F-----				END OF SENT.
HINDSIGHT									
	INTERSECTING ARGUMENTS								
1	N-A-----N-N-----							111	ARBTR
2	N-A-----N-N-----								END OF SENT.

An Indirect Object  
Figure 64



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
ESSENTIAL	A01.00	SUSHCHESTVEN N-O	0 A-0348	AD01000 2 0	N-----		194040000000		
NOTE	V04.01	OTMETI-T.	0 A-0349	VS UP30000 *	F-----	B0R6	132540000000		
...			0 A-0370						
THAT	I01.00	CHT-U	0 A-0371				213448750000		
...			0 A-0372	PNCI STRI 0	N-----		213447500000		
CHARACTER	N06.00	OTTEL.MOST-	0 A-0373	MD11000	N-----	P2	052050000000		
CONNECTION	N01.00	OTTEL.MOST-	0 A-0374	MD11000	N-----	P4	147095000000		
SCALMETER	V21.00	BYL-A	0 A-0375	MD11000	N-----	B3	097810000000		
...			0 A-0376	MD11000 130	F-----	P400	010866666666		
CHARACTER	A01.00	OTTEL.MOST-					030445545555		
ANALYZED TEXT									
CHAIN NO	SIZE OF POOL	CHN	CHN	CHN	CHN	CHN	CHN	CHN	CHN
00 14	004-0348	AD01000 2 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----
00 05	004-0349	VS UP30000	F-----	F-----	F-----	F-----	F-----	F-----	F-----
00 08	004-0370								
00 20	004-0371								
00 1E	004-0372	MD11000	N-----	N-----	N-----	N-----	N-----	N-----	N-----
00 1P	004-0373	MD11000	N-----	N-----	N-----	N-----	N-----	N-----	N-----
00 22	004-0374	MD11000	N-----	N-----	N-----	N-----	N-----	N-----	N-----
00 2F	004-0375	MD11000 130	F-----	F-----	F-----	F-----	F-----	F-----	F-----
00 14	004-0376	AD01000 130	N-----	N-----	N-----	N-----	N-----	N-----	N-----
HINDSIGHT									
004-0348	AD01000 2 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-0349	VS UP30000	F-----	F-----	F-----	F-----	F-----	F-----	F-----	F-----
004-0370									
004-0371									
004-03719	PNCI STRI 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-03719	PNCI STRI 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-03719	PNCI STRI 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-03719	PNCI STRI 0	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-0372	MD11000	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
004-0373	MD11000	N-----	N-----	N-----	N-----	N-----	N-----	N-----	N-----
ALTERNATIVE ROLE									
INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB	INF ADVB
INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT	INF SUBJECT
INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER	INF CLAUSER
INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT	INF CONJUNCT
371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ	371K L OBJ
369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT	369K OBJECT
111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT	111K SUBJECT
371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ
371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ	371 L OBJ



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
ALMO	101.00	PCHT-I	00K-0808	H			154170000000		
PRESENT	101.00	VSJA	00K-0809	PA K STF	0		000070000000		
CHAPTER	101.00	ASTOJASHCH- AJA	00K-0900	ADU0000	0		115240000000		
CHAPTER	101.00	BLAV-A	00K-0901	NDI25000			041940000000		
CHAPTER	101.00	BLU-ET	00K-0902	VK 0000000	3	B2B4	010210000000		
CHAPTER	101.00	PCSVJASHCH- -A	00K-0903	ADU0000	130	P7L2 P3C4	152438421040		
CHAPTER	101.00	IZUCHENT-JU	00K-0904	NDI1W000			078100000000		
CHAPTER	101.00	PRUTSESS-OV	00K-0905	NDI1W000			164970000000		
CHAPTER	101.00	BEZ-	00K-0906	H			058666666666		
CHAPTER	101.00	POSLEDEJSTVI OJA	00K-0907	NDI1W000			152550000000		
CHAPTER	101.00	-I	00K-0908	H			0000P0000000		
CHAPTER	101.00	OLK-K-U	00K-0909	H			198152500000		
CHAPTER	101.00	OLK-K-U	00K-0910	H			198150000000		
CHAPTER	101.00	POSIEDN-EM	00K-0911	KDK1A00	0	PAOR00AB0650	000020000000		
CHAPTER	101.00	PARAGRAF-E	00K-0912	NDI1W000			152540000000		
CHAPTER	101.00	PARAGRAF-E	00K-0913	PA A PVP	0		136462000000		
CHAPTER	101.00	PARAGRAF-E	00K-0914	V500P00000			102313333338		
CHAPTER	101.00	PARAGRAF-E	00K-0915	NDI1W000			045100000000		
CHAPTER	101.00	PRE-STAVLENT -E	00K-0916	H			155850000000		
CHAPTER	101.00	STATSIONAPN- YX	00K-0917	ADU1000	0	PAOR00340120	000120000000		
CHAPTER	101.00	PRUTSESS-AA	00K-0918	NDI1W000			192100000000		
CHAPTER	101.00		00K-0919	H			164970000000		
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTAGMATIC ROLE					
ALMO	00 1A	00K-0808	N	INF ADVB					
PRESENT	00 1A	00K-0809	N	111 SUBJECT					
CHAPTER	00 10	00K-0900	N	999 SUBJECT					
CHAPTER	00 11	00K-0901	N	900 SUBJECT					
CHAPTER	00 06	00K-0902	N	111 V PREP					
CHAPTER	00 11	00K-0903	N	902 V COMP					
CHAPTER	00 15	00K-0904	N	903 OBJECT					
CHAPTER	00 1A	00K-0905	N	904 N COMP					
CHAPTER	00 20	00K-0906	N	INF PREP					
CHAPTER	00 24	00K-0907	N	906 R COMP					
CHAPTER	00 24	00K-0908	N	INF CONJUNCT					
CHAPTER	00 24	00K-0909	N	INF ADVB					
CHAPTER	00 26	00K-0910	N	INF PREP					
CHAPTER	00 30	00K-0911	N	910 R COMP					
CHAPTER	00 30	00K-0912	N	911 R COMP					
CHAPTER	00 30	00K-0913	N	INF ARBTR					
CHAPTER	00 30	00K-0914	N	INF ARBTR					
CHAPTER	00 30	00K-0915	N	914 OBJECT					
CHAPTER	00 30	00K-0916	N	INF PREP					
CHAPTER	00 30	00K-0917	N	INF PREP					
CHAPTER	00 30	00K-0918	N	916 R COMP					
CHAPTER	00 30	00K-0919	N	917 R COMP					
CHAPTER	00 30	00K-0919	N	END OF SENT.					

A Sentence with Two Clauses Not Separated by Commas

Figure 68



A Relative Pronoun Used as a Subject of a Clause

A Relative Pronoun Used as a Subject of a Clause

UNANALYZED TEXT				ANALYZED TEXT			
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	SIZE OF CHAIN NO. POOL	SYNTACTIC ROLE	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
ADDITIONAL STATE SYSTEM	101.00	FSL-I	00K-0861	00 14	00K-0861	P9	056520000000
	002.00	CCPOLNITEL* -OF	00K-0862	00 15	00K-0862	P9	054405000000
	003.00	ZNAMI-E	00K-0863	00 17	00K-0863	P4	072600000000
	004.00	SCSTOJANI-U	00K-0864	00 18	00K-0864	P4P9	189220000000
		SYSTEM-Y	00K-0865	00 23	00K-0865		1844P2857142
ADDITIONAL STATE SYSTEM	101.00	FSL-I	00K-0861	00 14	00K-0861		
	002.00	CCPOLNITEL* -UF	00K-0862	00 15	00K-0862		
	003.00	ZNAMI-E	00K-0863	00 17	00K-0863		
	004.00	SCSTOJANI-U	00K-0864	00 18	00K-0864		
		SYSTEM-Y	00K-0865	00 23	00K-0865		
ADDITIONAL STATE SYSTEM	002.00	CCPOLNITEL* -OF	00K-0862	00 15	00K-0862		
	003.00	ZNAMI-E	00K-0863	00 17	00K-0863		
	004.00	SCSTOJANI-U	00K-0864	00 18	00K-0864		
		SYSTEM-Y	00K-0865	00 23	00K-0865		

A Clause Introduced by a Conjunction  
Figure 70

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
BASE	101.00	-V	00K-0265	N	---A-P---A-P	PAOR00AB0650	000020000000		
WHICH	104.00	OSNOV-E	00K-0266	ND12F000	---C-P---		120300000000		
THEORY	107.00	LEZM-IT	00K-0267	PK K STRITO	---G-CIP---		09509795915		
RANDOM	107.00	TEOPI-JA	00K-0268	VN 0000000	---I-BAD---	B1B4B5	099210000000		
PROCESS	107.00	SLUFHAJA-YX	00K-0269	ND11F000	N-----F-----		197100000000		
	107.00	PRCTSESS-CV	00K-0270	4000000	---GA-P---		18571145827		
			00K-0271	ND11F000	---G-----M---		164970000000		
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE					
BASE	00 23	00K-0265	R	---A-P---A-P	PAOR00AB0650	INF PREP			
WHICH	00 24	00K-0266	ND12F000	---G-----F---		265 R COMP			
THEORY	00 27	00K-0267	PA K STRITO	---G-----F---		266K N COMP			
RANDOM	00 29	00K-0268	VN 0P30000	00T000BADO		267 V PRED			
PROCESS	00 16	00K-0269	ND11F000	N-----F-----		267 SUBJECT			
	00 17	00K-0270	4000000	---G-----A---		269 N COMP			
	00 21	00K-0271	ND11F000	---G-----M---		270 N COMP			
HINDSIGHT									
	CHAIN NO	SIZE OF POOL	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE					
BASE	00K-0266	ND12F000	PN K STRITO	---C-----F---	111 IND OBJ				
WHICH	00K-0267	PA K STRITO	PN K STRITO	---G-----F---	266 N COMP				
WHICH	00K-0267	PN K STRITO	PN K STRITO	---I-----F---	267K L OBJ				
WHICH	00K-0267	PA K STRITO	PA K STRITO	---C-----F---	267K L OBJ				
WHICH	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	267KIND OBJ				
WHICH	00K-0267	PA K STRITO	PA K STRITO	---C-----F---	267KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	00K-0267	PN K STRITO	PN K STRITO	---C-----F---	111KIND OBJ				
PREDICTION	0								

A Relative Pronoun Used as a Noun Complement  
Figure 71

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATE)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
PLAT	ACA.CU	PLUSK-IV	00H-0249	ADG0000	0		1440000000000		
SYSTEM	NCH.CU	SYSTEM-AMI	00H-0250	ND1ZF000			1844P2857142		
PROPERTY	NCH.CU	SVLJSTV-A	00H-0251	ND11NB00			1810600000000		
OF DETERMINING	POI.CU	KOTCH-YV	00H-0252	PK K PTRITTO			095105510196		
STRIP	VCI.CU	UPRDELJA-JU TSJA	00H-0253	VNR0000000		BOB1B4B6	1274400000000		
CONDUCTION	NCH.CU	FORM-OJ	00H-0254	ND1ZF000			2093400000000		
	ACA.CU	POLSKUV-OGC	00H-0255	ADG0000	0		1505366666666		
	NCH.CU	BRUVONTR-A	00H-0257	NDK1M000			1613000000000		
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL					
PLAT	ACA.CU	PLUSK-IV	20	27	00H-0249	ADG0000	0		
SYSTEM	NCH.CU	SYSTEM-AMI	20	07	00H-0250	ND1ZF000			
PROPERTY	NCH.CU	SVLJSTV-A	21	07	00H-0251				
OF DETERMINING	POI.CU	KOTCH-YV	21	16	00H-0252	ND11NB00			
STRIP	VCI.CU	UPRDELJA-JU TSJA	22	07	00H-0253	PA K PTRITTO			
CONDUCTION	NCH.CU	FORM-OJ	22	04	00H-0254	VNR0000000			
	ACA.CU	POLSKUV-OGC	22	04	00H-0255	ND1ZF000			
	NCH.CU	BRUVONTR-A	22	02	00H-0257	NDK1M000			
HINDSIGHT									
			00H-0251						
			00H-0251						
PROPERTY	NCH.CU	SVLJSTV-A	00H-0252	ND11NB00					
OF DETERMINING	POI.CU	KOTCH-YV	00H-0253	PA K PTRITTO					
STRIP	VCI.CU	UPRDELJA-JU TSJA	00H-0254	VNR0000000					
CONDUCTION	NCH.CU	FORM-OJ	00H-0255	ND1ZF000					
					INTERSECTING ARGUMENTS				
					-G-----N-A-----N-----N-N-----				
					00000T6ADR				
					BOB1B4B6				
SYNTACTIC ROLE									
					244 AGENT				
					249 AGENT M				
					INF COMMA				
					INF ARBTR				
					252 N COMP				
					INF ARBTR				
					254 AGENT				
					255 N COMP				
					256 N COMPM				
ALTERNATIVE ROLE									
					INF CLAUSER				
					INF CONJUNCT				
					INF ARBTR				
					252 N COMP				
					INF ARBTR				

A Subordinate Clause Not Analyzable by the Present Program  
Figure 72

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
DISINTEGRATE	ГОРЮ	РАЗПАДАЮЩЕЯ	CUK-0341	VN 300000	-----TBAOR	808184B6	173027272720
...	...	...	CUK-0342	...	...	...	...
TURN (INT.)	ГОРЮ	РАЗВРАЩАЮЩАЯСЯ	CUK-0343	VNR000000 1	...B GR	B5	184408124990
...	ГОРЮ	...	CUK-0344	...	---A---P---A---P	PAOR0CA80650	000020000000
ATOM	ГОРЮ	АТОМ-Ы	CUK-0345	N0110000	---N-A---	---	004670000000
...	ГОРЮ	...	CUK-0346	K0110000	---B-M---	---	035790000000
OTHER	ГОРЮ	ПРОБУЮЩ	CUK-0347	N0110000	---G---	---	218340000000
ELEMENT	ГОРЮ	ЭЛЕМЕНТ-А	CUK-0348	...	---M---	---	...

SYNTACTIC ROLE	PREFERRED ARGUMENT	SIZE OF		CHAIN NO	POOL	SYNTACTIC ROLE
		CHAIN NO	POOL			
337	V	PRED				
INF	COMMA					
342	GERUND					
INF	PREP					
344	R COMP					
345	N COMP					
346	N COMP					

[illegible]

A Gerund Phrase  
Figure 73

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
ARTICLE	NOA.20	STAT.-I	004-0009	ND11F000	-G-----N-A-----F-----F-F-----		192120000000
PLACED	ACI.00	POMFSHCHEFN- YE	004-0101	AD00000 30	-----N-A-----F-----F-F-----	P300	151693333333
PRESENT	IOI.00	-V	004-0102	R	-----A-----A-----P-----	PAORONAB0650	000020000000
COLLECTION	AOA.00	NASTUJASHCH- EM	004-0103	AD00000 0	-----P-----P-----B-----		115240000000
	NOA.10	SEOPNIK-E	004-0104	ND11M000	-----P-----P-----M-----		180115000000
SOME	VIZ.00	DA-JUT	004-0105	VN 0000000	-----TBAD-----	B1	045030000000
PRESENTATION	POI.00	NEKTOR-OE	004-0106	PK I STT 0	N-A-----N-N-----		11723846150
THEORETICAL	NIA.00	PRESTAVLENT -E	004-0108	ND11N000	N-A-----N-N-----	P4	195805000000
PROBLEM	IOI.00	-O	004-0109	R	-----A-----A-----P-----	PAORON340120	000120000000
	AOA.00	TEOPETICHESK -IV	004-0110	AD01000 0	-----GA-----P-----		197120000000
	NOA.00	PRUPLA-AX	004-0111	ND12F000	-----P-----P-----F-----		160676666666
APISING	AOA.00	VOZNIKAJUSHC M-IX	004-0112	AD0100 40	-----GA-----P-----A-----	O000	021710000000
CONNECTION	IOI.00	-V	004-0113	R	-----A-----A-----P-----	PAORONAB0650	000020000000
	NOA.00	SVJAZ-I	004-0115	ND11F000	-G-C-PN-A-----F-F-F-F-----P2	P2	181670000000

## ANALYZED TEXT

	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE
ARTICLE	NO 18	004-0009	ND11F000	111 SUBJECT
PLACED	NO 09	004-0101		INF COMMA
PRESENT	NO 20	004-0102	AD00000 30	099 MODIFIER
COLLECTION	NO 16	004-0103	AD00000 0	INF PREP
	NO 19	004-0104	ND11M000	102 R COMP
	NO 23	004-0105	VN 0000000	103 R COMPM
SOME	NO 34	004-0106	PK I STT 0	INF COMMA
PRESENTATION	NO 06	004-0107	PA I STT 0	111 V PREO
THEORETICAL	NO 10	004-0108	ND11N000	106 OBJECT
PROBLEM	NO 11	004-0109	R	107 OBJECTM
	NO 13	004-0110	AD01000 0	109 R COMP
APISING	NO 17	004-0112	AD0100 40	110 R COMPM
CONNECTION	NO 28	004-0113	R	INF COMMA
	NO 22	004-0114		111 MODIFIER
	NO 25	004-0115	ND11F000	INF PREP
				114 R COMP

## HINDSIGHT

	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
ARTICLE	004-0009 ND11F000	111 L OBJ
PLACED	004-0101	INF CLAUSER
PRESENT	004-0102 AD00000 30	INF CONJUNCT
COLLECTION	004-0103	111 L OBJ
SOME	004-0105	INF CLAUSER
PRESENTATION	004-0107 PN I STT 0	INF CONJUNCT
THEORETICAL	004-0112	106 OBJECT
PROBLEM	004-0115	INF CLAUSER
		INF CONJUNCT

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
CIRCUIT	N04.00	SK-FM	00K-0077	MD12FOYO	1		194309444448		
SOLUTION	101.00	AL-JA	00K-0078		-G-----G----	500R000000000	0519700000000		
PROBLEM	N10.00	RESCHENI-JA	00K-0079	MD11N000	-G-----N-A-----	P4P9	1778000000000		
PROBLEM	N04.00	ZALACH-	00K-0080	MD14F000	-----G-----		0609000000000		
PROBLEM	004.00	VOZNIKAUSHC H-IX	00K-0081		-----GA--P-----	0000	0217100000000		
PROBLEM	101.00	ER-I	00K-0082	AD0100	-----P-----	P4	154245555554		
PROBLEM	N10.00	IZUCHENI-I	00K-0083	MD11N000	-----P-----	P4	0781000000000		
PROBLEM	101.00	TAK-IX	00K-0084		-----GA--P-----		195278333330		
PROBLEM	N10.00	JAVLENI-J	00K-0085	PK K PTDFTO	-----G-----	P4	2192600000000		
PROBLEM	101.00	JAVLENI-J	00K-0086	MD11N000	-----N-----				
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT				
CIRCUIT	N04.00	SK-FM	02 19	00K-0077	MD12FOYO	1			SYNTACTIC ROLE
PROBLEM	101.00	AL-JA	02 11	00K-0078					INF ARBTR
SOLUTION	N10.00	RESCHENI-JA	02 13	00K-0079	MD11N000				INF PREP
PROBLEM	N04.00	ZALACH-	02 14	00K-0080	MD14F000				078 R COMP
PROBLEM	004.00	VOZNIKAUSHC H-IX	02 21	00K-0081					079 N COMP
PROBLEM	101.00	ER-I	02 32	00K-0082	AD0100				INF COMMA
PROBLEM	N10.00	IZUCHENI-I	02 24	00K-0083	MD11N000				080 MODIFIER
PROBLEM	101.00	TAK-IX	02 28	00K-0084					INF PREP
PROBLEM	N10.00	JAVLENI-J	02 32	00K-0085	PK K PTDFTO				083 R COMP
PROBLEM	101.00	JAVLENI-J	02 36	00K-0086	MD11N000				084 N COMP
PROBLEM	101.00	JAVLENI-J	02 36	00K-0086	MD11N000				085 N COMPM
HINDSIGHT									
					INTERSECTING ARGUMENTS				
CIRCUIT	N04.00	SK-FM	00K-0077	MD12FOYO	1				ALTERNATIVE ROLE
PROBLEM	101.00	AL-JA	00K-0081						INF ARBTR
PROBLEM	N10.00	RESCHENI-JA	00K-0082	AD0100					INF CLAUSER
PROBLEM	004.00	VOZNIKAUSHC H-IX	00K-0085	PK K PTDFTO					INF CONJUNCT
PROBLEM	101.00	TAK-IX	00K-0085	PK K PTDFTO					077 MODIFIER
PROBLEM	N10.00	JAVLENI-J	00K-0085	PK K PTDFTO					084 N COMP
PROBLEM	101.00	JAVLENI-J	00K-0086	MD11N000					082 MODIFIER
PROBLEM	101.00	JAVLENI-J	00K-0086	MD11N000					082 MODIFIER
PROBLEM	101.00	JAVLENI-J	00K-0086	MD11N000					082 MODIFIER

An Analysis of an Ambiguous Modifier  
Figure 75

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
MODE	101.00	V	YV-0190	P	-A-P-A--P	P40R0AB0650	000070000000
INFINITE	101.00	VIL-E	YV-0191	AD0000	-M	P700	016020000000
PREDICATION	101.00	OPREDELNN-C J	YV-0192	AD0000	-F-F-F-F-F	P2	127770000000
PRECEDENCE	101.00	POSLEDUWATEL' NOST-I	YV-0193	AD0000	-F-F-F-F-F	P2	152690000000
SPACING	101.00	PAZ-	YV-0194	AD0000	-F-F-F-F-F	P2	137020000000
PLUSE	101.00	IL-I	YV-0195	AD0000	-F-F-F-F-F	P2	078400000000
ELECTRIC	101.00	IMFIL'S-OV	YV-0196	AD0000	-F-F-F-F-F	P2	078940000000
VOLTAGE	101.00	FLKTRICHES K-000	YV-0197	AD0000	-F-F-F-F-F	P2	217150000000
NUMBER	101.00	NAPPAZHENI- JA	YV-0198	AD0000	-F-F-F-F-F	P2	114500000000
NUMBER	101.00	PAZVALEW-OV	YV-0199	AD0000	-F-F-F-F-F	P2	112310000000
NUMBER	101.00	KOL-UM	YV-0200	AD0000	-F-F-F-F-F	P2	089450000000
NUMBER	101.00	CHISL-A	YV-0201	AD0000	-F-F-F-F-F	P2	213780000000

## ANALYZED TEXT

SIZE OF POOL	CHAIN NO	SYNTACTIC ROLE
01 08	YV-0190	INF PREP
01 11	YV-0191	189 R COMP
01 14	YV-0192	190 N COMP
01 21	YV-0193	191 N COMP
01 19	YV-0194	192 N COMP
01 22	YV-0195	INF CONJUNCT
01 22	YV-0196	193C N COMP
01 24	YV-0197	195 N COMP
01 28	YV-0198	196 N COMP
01 39	YV-0199	INF COMMA
01 32	YV-0200	197 MODIFIER
01 32	YV-0201	199 AGENT
01 32	YV-0201	200 N COMP

## HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
-C-----	188 OBJECT
-I-----	188 AGENT
-C-----	188 OBJECT
-G-----	191C N COMP
-F-----	INF CLAUSER
-F-----	INF CONJUNCT
-F-----	192 MODIFIER
-F-----	190 MODIFIER
-F-----	188 OBJECT
-F-----	188 AGENT
-F-----	199 OBJECT

An Incomplete Analysis of an Ambiguous Modifier  
Figure 76

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT		SIZE OF POOL	CHAIN NO	SYNTACTIC ROLE		
			SERIAL NO.	WORD			PREFERRED ARGUMENT	ROLE	
...	...	...	000000	000000	...	...	...	...	...
...	...	...	000001	000001	...	...	...	...	...
...	...	...	000002	000002	...	...	...	...	...
...	...	...	000003	000003	...	...	...	...	...
...	...	...	000004	000004	...	...	...	...	...
...	...	...	000005	000005	...	...	...	...	...
...	...	...	000006	000006	...	...	...	...	...
...	...	...	000007	000007	...	...	...	...	...
...	...	...	000008	000008	...	...	...	...	...
...	...	...	000009	000009	...	...	...	...	...
...	...	...	000010	000010	...	...	...	...	...
...	...	...	000011	000011	...	...	...	...	...
...	...	...	000012	000012	...	...	...	...	...
...	...	...	000013	000013	...	...	...	...	...
...	...	...	000014	000014	...	...	...	...	...
...	...	...	000015	000015	...	...	...	...	...
...	...	...	000016	000016	...	...	...	...	...
...	...	...	000017	000017	...	...	...	...	...
...	...	...	000018	000018	...	...	...	...	...
...	...	...	000019	000019	...	...	...	...	...
...	...	...	000020	000020	...	...	...	...	...
...	...	...	000021	000021	...	...	...	...	...
...	...	...	000022	000022	...	...	...	...	...
...	...	...	000023	000023	...	...	...	...	...
...	...	...	000024	000024	...	...	...	...	...
...	...	...	000025	000025	...	...	...	...	...
...	...	...	000026	000026	...	...	...	...	...
...	...	...	000027	000027	...	...	...	...	...
...	...	...	000028	000028	...	...	...	...	...
...	...	...	000029	000029	...	...	...	...	...
...	...	...	000030	000030	...	...	...	...	...
...	...	...	000031	000031	...	...	...	...	...
...	...	...	000032	000032	...	...	...	...	...
...	...	...	000033	000033	...	...	...	...	...
...	...	...	000034	000034	...	...	...	...	...
...	...	...	000035	000035	...	...	...	...	...
...	...	...	000036	000036	...	...	...	...	...
...	...	...	000037	000037	...	...	...	...	...
...	...	...	000038	000038	...	...	...	...	...
...	...	...	000039	000039	...	...	...	...	...
...	...	...	000040	000040	...	...	...	...	...
...	...	...	000041	000041	...	...	...	...	...
...	...	...	000042	000042	...	...	...	...	...
...	...	...	000043	000043	...	...	...	...	...
...	...	...	000044	000044	...	...	...	...	...
...	...	...	000045	000045	...	...	...	...	...
...	...	...	000046	000046	...	...	...	...	...
...	...	...	000047	000047	...	...	...	...	...
...	...	...	000048	000048	...	...	...	...	...
...	...	...	000049	000049	...	...	...	...	...
...	...	...	000050	000050	...	...	...	...	...
...	...	...	000051	000051	...	...	...	...	...
...	...	...	000052	000052	...	...	...	...	...
...	...	...	000053	000053	...	...	...	...	...
...	...	...	000054	000054	...	...	...	...	...
...	...	...	000055	000055	...	...	...	...	...
...	...	...	000056	000056	...	...	...	...	...
...	...	...	000057	000057	...	...	...	...	...
...	...	...	000058	000058	...	...	...	...	...
...	...	...	000059	000059	...	...	...	...	...
...	...	...	000060	000060	...	...	...	...	...
...	...	...	000061	000061	...	...	...	...	...
...	...	...	000062	000062	...	...	...	...	...
...	...	...	000063	000063	...	...	...	...	...
...	...	...	000064	000064	...	...	...	...	...
...	...	...	000065	000065	...	...	...	...	...
...	...	...	000066	000066	...	...	...	...	...
...	...	...	000067	000067	...	...	...	...	...
...	...	...	000068	000068	...	...	...	...	...
...	...	...	000069	000069	...	...	...	...	...
...	...	...	000070	000070	...	...	...	...	...
...	...	...	000071	000071	...	...	...	...	...
...	...	...	000072	000072	...	...	...	...	...
...	...	...	000073	000073	...	...	...	...	...
...	...	...	000074	000074	...	...	...	...	...
...	...	...	000075	000075	...	...	...	...	...
...	...	...	000076	000076	...	...	...	...	...
...	...	...	000077	000077	...	...	...	...	...
...	...	...	000078	000078	...	...	...	...	...
...	...	...	000079	000079	...	...	...	...	...
...	...	...	000080	000080	...	...	...	...	...
...	...	...	000081	000081	...	...	...	...	...
...	...	...	000082	000082	...	...	...	...	...
...	...	...	000083	000083	...	...	...	...	...
...	...	...	000084	000084	...	...	...	...	...
...	...	...	000085	000085	...	...	...	...	...
...	...	...	000086	000086	...	...	...	...	...
...	...	...	000087	000087	...	...	...	...	...
...	...	...	000088	000088	...	...	...	...	...
...	...	...	000089	000089	...	...	...	...	...
...	...	...	000090	000090	...	...	...	...	...
...	...	...	000091	000091	...	...	...	...	...
...	...	...	000092	000092	...	...	...	...	...
...	...	...	000093	000093	...	...	...	...	...
...	...	...	000094	000094	...	...	...	...	...
...	...	...	000095	000095	...	...	...	...	...
...	...	...	000096	000096	...	...	...	...	...
...	...	...	000097	000097	...	...	...	...	...
...	...	...	000098	000098	...	...	...	...	...
...	...	...	000099	000099	...	...	...	...	...
...	...	...	000100	000100	...	...	...	...	...
...	...	...	000101	000101	...	...	...	...	...
...	...	...	000102	000102	...	...	...	...	...
...	...	...	000103	000103	...	...	...	...	...
...	...	...	000104	000104	...	...	...	...	...
...	...	...	000105	000105	...	...	...	...	...
...	...	...	000106	000106	...	...	...	...	...
...	...	...	000107	000107	...	...	...	...	...
...	...	...	000108	000108	...	...	...	...	...
...	...	...	000109	000109	...	...	...	...	...
...	...	...	000110	000110	...	...	...	...	...
...	...	...	000111	000111	...	...	...	...	...
...	...	...	000112	000112	...	...	...	...	...
...	...	...	000113	000113	...	...	...	...	...
...	...	...	000114	000114	...	...	...	...	...
...	...	...	000115	000115	...	...	...	...	...
...	...	...	000116	000116	...	...	...	...	...
...	...	...	000117	000117	...	...	...	...	...
...	...	...	000118	000118	...	...	...	...	...
...	...	...	000119	000119	...	...	...	...	...
...	...	...	000120	000120	...	...	...	...	...
...	...	...	000121	000121	...	...	...	...	...
...	...	...	000122	000122	...	...	...	...	...
...	...	...	000123	000123	...	...	...	...	...
...	...	...	000124	000124	...	...	...	...	...
...	...	...	000125	000125	...	...	...	...	...
...	...	...	000126	000126	...	...	...	...	...
...	...	...	000127	000127	...	...	...	...	...
...	...	...	000128	000128	...	...	...	...	...
...	...	...	000129	000129	...	...	...	...	...
...	...	...	000130	000130	...	...	...	...	...
...	...	...	000131	000131	...	...	...	...	...
...	...	...	000132	000132	...	...	...	...	...
...	...	...	000133	000133	...	...	...	...	...
...	...	...	000134	000134	...	...	...	...	...
...	...	...	000135	000135	...	...	...	...	...
...	...	...	000136	000136	...	...	...	...	...
...	...	...	000137	000137	...	...	...	...	...
...	...	...	000138	000138	...	...	...	...	...
...	...	...	000139	000139	...	...	...	...	...
...	...	...	000140	000140	...	...	...	...	...
...	...	...	000141	000141	...	...	...	...	...
...	...	...	000142	000142	...	...	...	...	...
...	...	...	000143	000143	...	...	...	...	...
...	...	...	000144	000144	...	...	...	...	...
...	...	...	000145	000145	...	...	...	...	...
...	...	...	000146	000146	...	...	...	...	...
...	...	...	000147	000147	...	...	...	...	...
...	...	...	000148	000148	...	...	...	...	...
...	...	...	000149	000149	...	...	...	...	...
...	...	...	000150	000150	...	...	...	...	...
...	...	...	000151	000151	...	...	...	...	...

ANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATED	TEXT		SIZE OF POOL	CHAIN NO	SYNTACTIC ROLE		
			SERIAL NO.	WORD			PREFERRED ARGUMENT	ROLE	
...	...	...	000000	000000	...	...	...	...	...
...	...	...	000001	000001	...	...	...	...	...
...	...	...	000002	000002	...	...	...	...	...
...	...	...	000003	000003	...	...	...	...	...
...	...	...	000004	000004	...	...	...	...	...
...	...	...	000005	000005	...	...	...	...	...
...	...	...	000006	000006	...	...	...	...	...
...	...	...	000007	000007	...	...	...	...	...
...	...	...	000008	000008	...	...	...	...	...
...	...	...	000009	000009	...	...	...	...	...
...	...	...	000010	000010	...	...	...	...	...
...	...	...	000011	000011	...	...	...	...	...
...	...	...	000012	000012	...	...	...	...	...
...	...	...	000013	000013	...	...	...	...	...
...	...	...	000014	000014	...	...	...	...	...
...	...	...	000015	000015	...	...	...	...	...
...	...	...	000016	000016	...	...	...	...	...
...	...	...	000017	000017	...	...	...	...	...
...	...	...	000018	000018	...	...	...	...	...
...	...	...	000019	000019	...	...	...	...	...
...	...	...	000020	000020	...	...	...	...	...
...	...	...	000021	000021	...	...	...	...	...
...	...	...	000022	000022	...	...	...	...	...
...	...	...	000023	000023	...	...	...	...	...
...	...	...	000024	000024	...	...	...	...	...
...	...	...	000025	000025	...	...	...	...	...
...	...	...	000026	000026	...	...	...	...	...
...	...	...	000027	000027	...	...	...	...	...
...	...	...	000028	000028	...	...	...	...	...
...	...	...	000029	000029	...	...	...	...	...
...	...	...	000030	000030	...	...	...	...	...
...	...	...							



FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE	ARGUMENTS	SEMIOrganized WORD	3rd	DICTIONARY SERIAL NO.
АА	101.00	АА=	004-03221	C					085242338360
АА	101.00	АА=	004-03226						085240000000
АА	101.00	АА=	004-0323						208510000000
АА	101.00	АА=	004-0324						0000000000
АА	101.00	АА=	004-0325						114470000000
АА	101.00	АА=	004-0326						130710000000
АА	101.00	АА=	004-0327						0000000000
АА	101.00	АА=	004-0328						0000000000
АА	101.00	АА=	004-0329						0000000000
АА	101.00	АА=	004-0330						0000000000
АА	101.00	АА=	004-0331						197878000000
АА	101.00	АА=	004-0332						0000000000
АА	101.00	АА=	004-0333						0000000000
АА	101.00	АА=	004-0334						0000000000
АА	101.00	АА=	004-0335						0000000000
АА	101.00	АА=	004-0336						0000000000
АА	101.00	АА=	004-0337						0000000000
АА	101.00	АА=	004-0338						0000000000
АА	101.00	АА=	004-0339						0000000000
АА	101.00	АА=	004-0340						0000000000
АА	101.00	АА=	004-0341						0000000000
АА	101.00	АА=	004-0342						0000000000
АА	101.00	АА=	004-0343						0000000000
АА	101.00	АА=	004-0344						0000000000
АА	101.00	АА=	004-0345						0000000000
АА	101.00	АА=	004-0346						0000000000
АА	101.00	АА=	004-0347						0000000000
АА	101.00	АА=	004-0348						0000000000
АА	101.00	АА=	004-0349						0000000000
АА	101.00	АА=	004-0350						0000000000
АА	101.00	АА=	004-0351						0000000000
АА	101.00	АА=	004-0352						0000000000
АА	101.00	АА=	004-0353						0000000000
АА	101.00	АА=	004-0354						0000000000
АА	101.00	АА=	004-0355						0000000000
АА	101.00	АА=	004-0356						0000000000
АА	101.00	АА=	004-0357						0000000000
АА	101.00	АА=	004-0358						0000000000
АА	101.00	АА=	004-0359						0000000000
АА	101.00	АА=	004-0360						0000000000
АА	101.00	АА=	004-0361						0000000000
АА	101.00	АА=	004-0362						0000000000
АА	101.00	АА=	004-0363						0000000000
АА	101.00	АА=	004-0364						0000000000
АА	101.00	АА=	004-0365						0000000000
АА	101.00	АА=	004-0366						0000000000
АА	101.00	АА=	004-0367						0000000000
АА	101.00	АА=	004-0368						0000000000
АА	101.00	АА=	004-0369						0000000000
АА	101.00	АА=	004-0370						

SYNTACTIC ROLE	PREFERRED ARGUMENT		SIZE OF POOL	C-CHAIN NO	SYNTACTIC ROLE
	ARGUMENT	ARGUMENT			
321K R CONJ	---	N	---	---	---
322 SUBJECT	---	N	---	---	---
INF COMMA	---	N	---	---	---
323 MODIFIER	---	N	---	---	---
325 MODIFIER	---	N	---	---	---
INF COMMA	---	N	---	---	---
326 MODIFIER	---	N	---	---	---
328 MODIFIER	---	N	---	---	---
INF CONJUNCT	---	N	---	---	---
328C MODIFIER	---	N	---	---	---
INF COMMA	---	N	---	---	---
322 V PRED	---	N	---	---	---
INF ADVB	---	N	---	---	---
331 V MAST	---	N	---	---	---

A Series  
Figure 79



The Effect of a Negative on the Analysis of a Modifier

The Effect of a Negative on the Analysis of a Modifier

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
COORDINATE	NOA.00	ORCTN-AT	00A-0343	ND12F000	1		1285500000000		
REFLECTED	AO1.00	OTRAZHEHNA-OR C	00A-0344	AD0000	30	P300	1335000000000		
SIGNAL	NO1.00	SIGNAL-A	00A-0345	ND11M000			1833700000000		
CONFIRMING	AO4.00	SOUTVETSTVUJ USHCH-IX	00A-0346		*				
IFN	DO1.00	RESJAT-T	00A-0347	AD0100	40	P200	1881100000000		
DIFFERENT	AO2.00	PAZLICHN-YM	00A-0348	NA RACJPK			0492466666666		
L1STANCE	NOA.00	PALINOST-JAM	00A-0349	AD0000	0		1708000000000		
			00A-0350	ND11F000		P2	0455000000000		
ANALYZED TEXT									
			CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT		SYNTACTIC ROLE		
COORDINATE	NOA.00	ORCTN-AT	00 10	00A-0343	ND12F000	1	342 OBJECTN		
REFLECTED	AO1.00	OTRAZHEHNA-OR C	00 11	00A-0344	AD0000	30	343 N COMPH		
SIGNAL	NO1.00	SIGNAL-A	00 12	00A-0345	ND11M000		344 N COMPH		
CONFIRMING	AO4.00	SOUTVETSTVUJ USHCH-IX	00 15	00A-0346		*	INF COMMA		
IFN	DO1.00	RESJAT-T	00 26	00A-0347	AD0100	40	343 MODIFIER		
DIFFERENT	AO2.00	PAZLICHN-YM	00 16	00A-0348	NA RACJPK		347 MODIFIER		
L1STANCE	NOA.00	PALINOST-JAM	00 13	00A-0350	ND11F000		INF ARBTR		
							349 ARBTR M		
HINDSIGHT									
					INTERSECTING ARGUMENTS		ALTERNATIVE ROLE		
COORDINATE	NOA.00	ORCTN-AT	000	00A-0343			INF CLAUSER		
REFLECTED	AO1.00	OTRAZHEHNA-OR C	000	00A-0344			INF CONJUNCT		
SIGNAL	NO1.00	SIGNAL-A	000	00A-0345			347 OBJECT		
CONFIRMING	AO4.00	SOUTVETSTVUJ USHCH-IX	000	00A-0346					
IFN	DO1.00	RESJAT-T	000	00A-0347					
DIFFERENT	AO2.00	PAZLICHN-YM	000	00A-0348					
L1STANCE	NOA.00	PALINOST-JAM	000	00A-0350					

An Analysis with a Master-object Ambiguity  
Figure 81

A Compound Propositional Complement

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI ORGANIZED WORD	DICTIONARY SERIAL NO.		
UTMINISH	V04.20	UMEN.SHT-T.	00H-0531	VS00P70000		B0B6	20395000000		
UTMINISH	NO1.00	PAZMER-V	00H-0532	MD11M000	F-		17122500000		
A'D	NO1.00	-I	00H-0533	C	-----N-A-----M-M-----		00000000000		
A'FIGT	NO1.00	VES-	00H-0534	MD11M300	N-A-----M-N-----		00000000000		
							01390000000		
ANALYZED TEXT									
		CHAIN NO.	SIZE OF POOL						
UTMINISH	V04.20	NO 14	00H-0531	VS00P70000	PREFERRED ARGUMENT	B0B6	529	V	HAST
UTMINISH	NO1.00	NO 16	00H-0532	MD11M000	F0		531	OBJECT	
A'D	NO1.00	NO 19	00H-0533	C	-----A-----M-----		INF	CONJUNCT	
A'FIGT	NO1.00	NO 19	00H-0534	MD11M300	--A-----		532C	OBJECT	
HINDSIGHT									
UTMINISH	V04.20	NO 14	00H-0531	VS00P70000	INTERSECTING ARGUMENTS	B0B6	526	V	HAST
A'FIGT	NO1.00	NO 19	00H-0534	MD11M300	F0		INF	ADVB	
					--A-----M-----		528C	R	COMP

A Compound Object  
Figure 83

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
ABSENCE	N10.00	OTSUTSTVI-E	00A-1706	ND11N800	N-A-----N-N-----	P4		134400000000	
NONLINEAR	A02.00	NELINEJN-YX	00A-1707	AD00000	-----GA--P-----			117200000000	
EFFECT	N01.00	FHEFT-OV	00A-1708	ND11M800	-----G-----N-----			219000000000	
AND	I01.00	-I	00A-1709	C				000000000000	
ALSO	I01.00	-I	00A-1709	H				000000000000	
CONSTANCY	N08.00	POSTOJANSTV-0	00A-1710	ND11N100	N-A-----N-N-----			000000000000	
FACTOR	N01.00	KHEFTITSEK T-A	00A-1711	ND11M000	-----G-----M-----			153010000000	
AMPLIFICATION	N10.00	USILENI-JA	00A-1712	ND11N100	-----G-----N-----N-N-----	P4		095510000000	
AVERAGING	A04.00	USKFDNJAJUSH CH-FGO	00A-1713	AD00000	-----GA-----B-----			205240000000	
DEVICE	N08.00	USTROJSTV-A	00A-1714	ND11N800	-----G-----N-----N-N-----			206243333333	
PROVIDE	V01.00	OBESPECHIVA- JUTSJA	00A-1715	VN 0P30000	-----T8ADR-----	8081B486		206900000000	
								120800000000	
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE					
ABSENCE	00 18	00A-1706	ND11N800	N-----N-----	R4			III SUBJECT	
NONLINEAR	00 10	00A-1707	AD00000	-----G-----A-----				706 N COMP	
EFFECT	00 14	00A-1708	ND11M800	-----G-----M-----				707 N CONPH	
AND	00 14	00A-1709	C					INF CONJUNCT	
CONSTANCY	00 14	00A-1710	ND11N100	N-----N-----				706C SUBJECT	
FACTOR	00 12	00A-1711	ND11M000	-----G-----H-----				710 N COMP	
AMPLIFICATION	00 15	00A-1712	ND11N100	-----G-----N-----				711 N COMP	
AVERAGING	00 19	00A-1713	AD00000	-----G-----B-----	R4			712 N COMP	
DEVICE	00 23	00A-1714	ND11N800	-----G-----N-----				713 N CONPH	
PROVIDE	00 23	00A-1715	VN 0P40000	00000T8ADR	8081B486			III V PRED	
HINDSIGHT									
	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE							
ABSENCE	00A-1706	ND11N800	-----A-----N-----	R4				III L OBJ	
NONLINEAR	00A-1707	AD00000	-----A-----A-----					III L OBJ	
ALSO	00A-1709	H						INF ADVB	
CONSTANCY	00A-1710	ND11N100	-----A-----N-----					III L OBJ	
AMPLIFICATION	00A-1712	ND11N100	-----A-----N-----					III L OBJ	
AVERAGING	00A-1713	AD00000	-----A-----M-----	R4				III L OBJ	
DEVICE	00A-1714	ND11N800	-----A-----N-----					III L OBJ	

A Compound Subject  
Figure 84

UNANALYZED TEXT									
CLASS MARKER		RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS		3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
UN	101.00	N-A	00H-0177	R	AD00000	0	PA00R00DF0560	1107R00000000	
STRIP	A03.00	POLOSKOV-YX	00H-0178		AD00000			150536666666	
LINE	N07.00	LINT-JAY	00H-0179	ND11F000		0		100400000000	
SYMMETRICAL	A02.00	SIMMETRICHN- OGN	00H-0180		AD00000	0		183790000000	
AND	101.00	-I	00H-0181	C				000080000000	
ALSO	101.00	-I	00H-0181K	M				000080000000	
UNBALANCED	A02.00	NEFSIMMETRICH N-NGO	00H-0182		AD00000	0		000080000000	
TYPE	N01.00	TIP-UV	00H-0183	ND11M0Y0				1188P0000000	
								1977R00000000	
ANALYZED TEXT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT		SYNTACTIC ROLE			
UN	101.00	N-A	16	00H-0177	R	AD00000	0	PA00R00DF0560	INF PREP
STRIP	A03.00	POLOSKOV-YX	18	00H-0178		AD00000			177 R COMP
LINE	N07.00	LINT-JAY	22	00H-0179	ND11F000		0		178 R COMP
SYMMETRICAL	A02.00	SIMMETRICHN- OGN	22	00H-0180		AD00000	0		179 N COMP
AND	101.00	-I	26	00H-0181	C				180 N COMP
UNBALANCED	A02.00	NEFSIMMETRICH N-NGO	27	00H-0182		AD00000	0		INF CONJUNCT
TYPE	N01.00	TIP-UV	27	00H-0183	ND11M0Y0				INF ARBYR
HINDSIGHT									
		CHAIN NO.	SIZE OF POOL	INTERSECTING ARGUMENTS		ALTERNATIVE ROLE			
UN	101.00	N-A	16	00H-0177	R	AD00000	0		172 OBJECT
STRIP	A03.00	POLOSKOV-YX	18	00H-0178		AD00000	0		172 OBJECT
LINE	N07.00	LINT-JAY	22	00H-0179	ND11F000		0		INF ADVB
SYMMETRICAL	A02.00	SIMMETRICHN- OGN	22	00H-0180		AD00000	0		180C N COMP
AND	101.00	-I	26	00H-0181	C				178C R COMP
UNBALANCED	A02.00	NEFSIMMETRICH N-NGO	27	00H-0182		AD00000	0		174C N COMP
TYPE	N01.00	TIP-UV	27	00H-0183	ND11M0Y0				172 OBJECT
									INF ARBYR

Two Compound Singular Adjectives with One Plural Master  
Figure 85

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT		CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS		3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
ONE'S OWN		PO1.00	SVU-I	00K-0159	PA K PAS	L	-----N-A-----	-----A-A-----	181510909090
SPEED		NO4.00	SKUPST--	00K-0160	ND11F000		N-A-----F-----	P2	184920000000
AND		IO1.00	-I	00K-0161	C				000000000000
ALSO		IO1.00	-I	00K-0161	H				000000000000
POSITION		N19.00	POLOZHENI-E	00K-0162	ND11N000		N-A-----N-N-----	p4p9	150410000000
ANALYZED TEXT									
		CHAIN NO	SIZE OF POOL						
ONE'S OWN		PO1.00	SVU-I	CO 14	00K-0159	PA K PAS	L		
SPEED		NO4.00	SKUPST--	CI 11	00K-0160	ND11F000			
AND		IO1.00	-I	CI 04	00K-0161	C			
POSITION		N19.00	POLOZHENI-E	CI 04	00K-0162	ND11N000			
HINDSIGHT									
PREDICTION	WIPE	15901300053	000000000000	000000000000	156	OBJECT			
SPEED	NO4.00	SKUPST--	00K-0160	ND11F000	N-A-----	F-----	P2		
AND	IO1.00	-I	00K-0161	C	-----				
POSITION	N19.00	POLOZHENI-E	00K-0162	ND11N000	N-A-----	N-N-----	RUP9		
ALTERNATIVE									
							ROLE		
							156	OBJECT	
							156	ARBTR	
							156	CONJCT	
							156	ARBTR	

A Plural Adjective with Compound Singular Masters  
Figure 86



ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL						PREFERRED ARGUMENT	SYNTACTIC ROLE
REFLEX	101.00	00H-06431	UDNAK-U						116K R CONJ
SPITE (OF)	101.00	00H-0644	NESMUTH-JA						INF COMMA
ABSTRACTNESS	101.00	00H-0645	MAZ						INF ADVB
AD	101.00	00H-0646	KNSPEKTIVAC ST-I						INF PREP
AD	101.00	00H-0647	MAZ						666 R COMP
AD	101.00	00H-0648	MAZ						INF CONJUNCT
AD	101.00	00H-0649	MAZ						INF ADVB
AD	101.00	00H-0650	MAZ						667C R COMP
AD	101.00	00H-0651	MAZ						670 N COMP
AD	101.00	00H-0652	MAZ						671 N COMP
AD	101.00	00H-0653	MAZ						672 N COMP
AD	101.00	00H-0654	MAZ						INF COMMA
AD	101.00	00H-0655	MAZ						663 SUBJECT
AD	101.00	00H-0656	MAZ						INF CONJUNCT
AD	101.00	00H-0657	MAZ						INF PREP
AD	101.00	00H-0658	MAZ						677 R COMP
AD	101.00	00H-0659	MAZ						678 R COMP
AD	101.00	00H-0660	MAZ						679 R COMP
AD	101.00	00H-0661	MAZ						681 V COMP
AD	101.00	00H-0662	MAZ						INF CONJUNCT
AD	101.00	00H-0663	MAZ						682C V COMP
AD	101.00	00H-0664	MAZ						INF PREP
AD	101.00	00H-0665	MAZ						685 R COMP
AD	101.00	00H-0666	MAZ						686 OBJECT
AD	101.00	00H-0667	MAZ						687 N COMP
AD	101.00	00H-0668	MAZ						688 N COMP
AD	101.00	00H-0669	MAZ						689 N COMP
AD	101.00	00H-0670	MAZ						INF CONJUNCT
AD	101.00	00H-0671	MAZ						685 PREP
AD	101.00	00H-0672	MAZ						692 R COMP
AD	101.00	00H-0673	MAZ						693 N COMP
AD	101.00	00H-0674	MAZ						694 N COMP
AD	101.00	00H-0675	MAZ						695 N COMP
AD	101.00	00H-0676	MAZ						END OF SENT.

Figure 87 (continued)

[illegible]

Figure 87 (continued)

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE	ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.	
TEST	N10.00	TESTYANT-1-A	00A-2628	N11N000	-G----	N-A----	P4	083340000000	
...	N05.00	POKAZAL-I	00A-2629	V500P2ESV0	---	PPPAD-	P7 B4	149200000000	
...	N10.00	...	00A-2630	...	...	...	...	...	
...	N10.00	...	00A-2631	...	...	...	...	...	
...	N10.00	...	00A-2632	...	...	...	...	...	
...	N10.00	...	00A-2633	...	...	...	...	...	
...	N10.00	...	00A-2634	...	...	...	...	...	
...	N10.00	...	00A-2635	...	...	...	...	...	
...	N10.00	...	00A-2636	...	...	...	...	...	
...	N10.00	...	00A-2637	...	...	...	...	...	
...	N10.00	...	00A-2638	...	...	...	...	...	
...	N10.00	...	00A-2639	...	...	...	...	...	
...	N10.00	...	00A-2640	...	...	...	...	...	
...	N10.00	...	00A-2641	...	...	...	...	...	
...	N10.00	...	00A-2642	...	...	...	...	...	
...	N10.00	...	00A-2643	...	...	...	...	...	
...	N10.00	...	00A-2644	...	...	...	...	...	
...	N10.00	...	00A-2645	...	...	...	...	...	
...	N10.00	...	00A-2646	...	...	...	...	...	
...	N10.00	...	00A-2647	...	...	...	...	...	
...	N10.00	...	00A-2648	...	...	...	...	...	
...	N10.00	...	00A-2649	...	...	...	...	...	
...	N10.00	...	00A-2650	...	...	...	...	...	
...	N10.00	...	00A-2651	...	...	...	...	...	
...	N10.00	...	00A-2652	...	...	...	...	...	
...	N10.00	...	00A-2653	...	...	...	...	...	
...	N10.00	...	00A-2654	...	...	...	...	...	
...	N10.00	...	00A-2655	...	...	...	...	...	
...	N10.00	...	00A-2656	...	...	...	...	...	
...	N10.00	...	00A-2657	...	...	...	...	...	
...	N10.00	...	00A-2658	...	...	...	...	...	
...	N10.00	...	00A-2659	...	...	...	...	...	
...	N10.00	...	00A-2660	...	...	...	...	...	

A Compound Relative Conjunction  
Figure 88



Figure 88 (continued)

## A Compound Noun Complement

Figure 89

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
UN	101.00	N-A	00K-0202	P	--A--P--A--P	PAOR00DF0560	1107A0000000		
THEN	101.00	T-U	00K-0203	C			19510185183		
UP	101.00	T-U	00K-0203	C			195108148147		
UP	101.00	T-U	00K-0203	C			195106111111		
DIFFERENT	101.00	IL-I	00K-0204	C	N-A-----		078400000000		
DIFFERENCE	101.00	IN-NE	00K-0205	AD01000	N-A-----		079000000000		
	101.00	PASSTOJANI-F	00K-0206	AD010000	N-A-----	P4	1741P0000000		
ANALYZED TEXT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE				
UN	101.00	N-A	00	21	00K-0202	P	PAOR00DF0560	INF PREP	
THEN	101.00	T-U	00	24	00K-0203	PA 1 STD 0		202 R COMP	
UP	101.00	IL-I	00	28	00K-0204	C		INF CONJUNCT	
DIFFERENT	101.00	IN-NE	00	20	00K-0205	AD01000		203 R COMPM	
DISTANCE	101.00	PASSTOJANI-F	00	29	00K-0206	AD010000		205 R COMPM	
HINDSIGHT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE				
UN	101.00	N-A	00	21	00K-0202	P	PAOR00DF0560	INF PREP	
THEN	101.00	T-U	00	24	00K-0203	PA 1 STD 0		202 R COMP	
UP	101.00	IL-I	00	28	00K-0204	C		INF CONJUNCT	
DIFFERENT	101.00	IN-NE	00	20	00K-0205	AD01000		203 R COMPM	
DISTANCE	101.00	PASSTOJANI-F	00	29	00K-0206	AD010000		205 R COMPM	
HINDSIGHT									
		CHAIN NO.	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE				
UN	101.00	N-A	00	21	00K-0202	P	PAOR00DF0560	INF PREP	
THEN	101.00	T-U	00	24	00K-0203	PA 1 STD 0		202 R COMP	
UP	101.00	IL-I	00	28	00K-0204	C		INF CONJUNCT	
DIFFERENT	101.00	IN-NE	00	20	00K-0205	AD01000		203 R COMPM	
DISTANCE	101.00	PASSTOJANI-F	00	29	00K-0206	AD010000		205 R COMPM	

An Analysis with Master - Compound Preposition Complement Ambiguity  
Figure 90

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
ATTN	101.00	C	004-0229	4	-GA-I--GA-I-	IGARONAB1111	178910000000		
ATTN	101.00	LLUSH-FU	004-0230	AD00000	0	-G-CIP-----	101845000000		
ATTN	101.00	LLUSH-FU	004-0231	ND11F100	0	-----F-F-F	052610000000		
ATTN	101.00	LLUSH-FU	004-0232	4	-----F-F-F	P2	000000000000		
ATTN	101.00	LLUSH-FU	004-0233	AD00000	0	-G-CIP-----	000000000000		
ATTN	101.00	LLUSH-FU	004-0234	ND11F000	0	-----F-F-F	101845000000		
ATTN	101.00	LLUSH-FU	004-0235	ND11F000	0	-----F-F-F	216680000000		
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE					
ATTN	02	08	004-0229	4	-GA-I--GA-I-	IGARONAB1111	178910000000	INF	PREP
ATTN	02	10	004-0230	AD00000	0	-G-CIP-----	101845000000	229	R COMP
ATTN	02	14	004-0231	ND11F100	0	-----F-F-F	052610000000	230	R COMP
ATTN	02	15	004-0232	4	-----F-F-F	P2	000000000000	INF	CONJCT
ATTN	02	15	004-0233	AD00000	0	-G-CIP-----	000000000000	231	OBJECT
ATTN	02	14	004-0234	ND11F000	0	-----F-F-F	101845000000	INF	ARBYR
HINDSIGHT									
	CHAIN NO	SIZE OF POOL	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE					
ATTN	02	08	004-0229	4	-GA-I--GA-I-	IGARONAB1111	178910000000	INF	PREP
ATTN	02	10	004-0230	AD00000	0	-G-CIP-----	101845000000	229	R COMP
ATTN	02	14	004-0231	ND11F100	0	-----F-F-F	052610000000	230	R COMP
ATTN	02	15	004-0232	4	-----F-F-F	P2	000000000000	INF	CONJCT
ATTN	02	15	004-0233	AD00000	0	-G-CIP-----	000000000000	231	OBJECT
ATTN	02	14	004-0234	ND11F000	0	-----F-F-F	101845000000	INF	ARBYR

An Analysis with Object - Compound Preposition Complement Ambiguity  
Figure 91



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIOrganized WORD	3rd WORD	DICTIONARY SERIAL NO.	
1. TSH	P01.00	IN-A	\$ -0772	PN K STP 0	N-----F-----			126772000002	
2. UN	V20.00	KOTEL-A	\$ -0773	VN OP50000	SSS---A-D-	P9 B3		211416071426	
3. .	V1A.00	ICT-I	\$ -0774	VN OP00000	F-	B0		074020000000	
4. IT	101.00	. .	\$ -0775						
5. D	101.00	-A	\$ -0776	C				000010000000	
6. THEH	A00.00	ORUG-IE	\$ -0777	ADK1000	-----N-A-----A-			000015000000	
7. CONTINUE	V01.00	PRGOLZHAL-I	\$ -0778	VN0UP70000	---PPPAAD-	P9 B3		055700000000	
8. SAY	V04.00	GOVORI-T.	\$ -0779	VN OP00000	F-	B0B6		161576666660	
9. .			\$ -0780					042650000000	
ANALYZED TEXT									
	CHAIN NO.	SIZE OF POOL			PREFERRED ARGUMENT			SYNTACTIC ROLE	
1. TSH	P01.00	18	\$ -0772	PN K STP 0	N-----F-----			111 SUBJECT	
2. UN	V20.00	09	\$ -0773	VN OP50000	SSS000AFDQ	P9 B3		111 V PRED	
3. .	V1A.00	06	\$ -0774	VN OP30000	FO	B0		773 V MAST	
4. IT	101.00	07	\$ -0775					INF COMMA	
5. D	101.00	19	\$ -0776	C				775K R CONJ	
6. THEH	A00.00	15	\$ -0777	ADK1000	-----N-----A-			776 SUBJECT	
7. CONTINUE	V01.00	18	\$ -0778	VN0UP70000	OCPPPPAADQ	P9 B3		776 V PRED	
8. SAY	V04.00	14	\$ -0779	VN OP50000	FO	B0B6		778 V MAST	
9. .		15	\$ -0780					END OF SENT.	
HINDSIGHT									
	WIPE				INTERSECTING ARGUMENTS			ALTERNATIVE ROLE	
PREDICTION	WIPE	773012000650	000000000000	000	0-JECT			INF CLAUSER	
. .					\$ -0775			INF CONJUNCT	
. .					\$ -0776			INF CONJUNCT	
0-T	101.00	-A			\$ -0777			INF ADVB	
THEH	A00.00	ORUG-IE			\$ -0778			776 SUBJECT	
THEH	A00.00	ORUG-IE			\$ -0779			776 L OBJ	
PREDICTION	WIPE	777013000531	000000000000	000	776 SUBJECT			776 L OBJ	
PREDICTION	WIPE	776012000650	000000000000	000	0-JECT				
PREDICTION	WIPE	775012000650	000000000000	000	0-JECT				
PREDICTION	WIPE	774012000650	000000000000	000	0-JECT				

An Analysis with Infinite Conjunction - Relative Conjunction Ambiguity  
Figure 93

UNANALYZED TEXT							
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD TRANSLITERATION	TEXT SERIAL NO	ORGANIZED WORD	ALTERNATIVE ARGUMENTS		DICTIONARY SERIAL NO
					3rd SEMI-ORGANIZED WORD		
А	1	А	00000001	00000001	---	---	0000000000
А	1	А	00000002	00000002	---	---	0000000000
А	1	А	00000003	00000003	---	---	0000000000
А	1	А	00000004	00000004	---	---	0000000000
А	1	А	00000005	00000005	---	---	0000000000
А	1	А	00000006	00000006	---	---	0000000000
А	1	А	00000007	00000007	---	---	0000000000
А	1	А	00000008	00000008	---	---	0000000000
А	1	А	00000009	00000009	---	---	0000000000
А	1	А	00000010	00000010	---	---	0000000000
А	1	А	00000011	00000011	---	---	0000000000
А	1	А	00000012	00000012	---	---	0000000000
А	1	А	00000013	00000013	---	---	0000000000
А	1	А	00000014	00000014	---	---	0000000000
А	1	А	00000015	00000015	---	---	0000000000
А	1	А	00000016	00000016	---	---	0000000000
А	1	А	00000017	00000017	---	---	0000000000
А	1	А	00000018	00000018	---	---	0000000000
А	1	А	00000019	00000019	---	---	0000000000
А	1	А	00000020	00000020	---	---	0000000000
А	1	А	00000021	00000021	---	---	0000000000
А	1	А	00000022	00000022	---	---	0000000000
А	1	А	00000023	00000023	---	---	0000000000
А	1	А	00000024	00000024	---	---	0000000000
А	1	А	00000025	00000025	---	---	0000000000
А	1	А	00000026	00000026	---	---	0000000000
А	1	А	00000027	00000027	---	---	0000000000
А	1	А	00000028	00000028	---	---	0000000000
А	1	А	00000029	00000029	---	---	0000000000
А	1	А	00000030	00000030	---	---	0000000000
А	1	А	00000031	00000031	---	---	0000000000
А	1	А	00000032	00000032	---	---	0000000000
А	1	А	00000033	00000033	---	---	0000000000
А	1	А	00000034	00000034	---	---	0000000000
А	1	А	00000035	00000035	---	---	0000000000
А	1	А	00000036	00000036	---	---	0000000000
А	1	А	00000037	00000037	---	---	0000000000
А	1	А	00000038	00000038	---	---	0000000000
А	1	А	00000039	00000039	---	---	0000000000
А	1	А	00000040	00000040	---	---	0000000000
А	1	А	00000041	00000041	---	---	0000000000
А	1	А	00000042	00000042	---	---	0000000000
А	1	А	00000043	00000043	---	---	0000000000
А	1	А	00000044	00000044	---	---	0000000000
А	1	А	00000045	00000045	---	---	0000000000
А	1	А	00000046	00000046	---	---	0000000000
А	1	А	00000047	00000047	---	---	0000000000
А	1	А	00000048	00000048	---	---	0000000000
А	1	А	00000049	00000049	---	---	0000000000
А	1	А	00000050	00000050	---	---	0000000000
А	1	А	00000051	00000051	---	---	0000000000

An Analysis with Infinite Conjunction - Relative Conjunction Ambiguity  
Figure 94

[illegible]

Figure 94 (continued)

UNANALYZED TEXT									
CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	3rd SEMI-ORGANIZED WORD	ALTERNATIVE ARGUMENTS	DICTIONARY SERIAL NO.			
P	PLATE	0313	PN A PZP		N-N				

A Genitive Basic Phrase as a Comparative Complement

Figure 95



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIORGANIZED WORD	3rd	DICTIONARY SERIAL NO	
VERB	ACT	УСЛОВИЯ	001	00000	---	0000		2064-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	002	00000	---	0000		1285-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	003	00000	---	0000		2067-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	004	00000	---	0000		0729-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	005	00000	---	0000		1851-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	006	00000	---	0000		2128-00000000	
ADJECTIVE	ACT	УСЛОВИЯ	007	00000	---	0000		2128-777777	
ADJECTIVE	ACT	УСЛОВИЯ	008	00000	---	0000		1193-666666	
ADJECTIVE	ACT	УСЛОВИЯ	009	00000	---	0000		1833-00000000	
ANALYZED TEXT									
	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTACTIC ROLE					
VERB	001	001	---	111 SUBJECT					
ADJECTIVE	002	001	---	622 SUBJECT					
ADJECTIVE	003	001	---	111 V. PRED					
ADJECTIVE	004	001	---	INF ADVB					
ADJECTIVE	005	001	---	INF ADVB					
ADJECTIVE	006	001	---	626 IMP. CMP					
ADJECTIVE	007	001	---	627K R. CONJ					
ADJECTIVE	008	001	---	628 SUBJECT					
ADJECTIVE	009	001	---	629 SUBJECT					
HINDSIGHT									
	INTERSECTING ARGUMENTS	ALTERNATIVE ROLE							
VERB	---	111 L. OBJ							
ADJECTIVE	---	111 L. OBJ							
ADJECTIVE	---	INF. COMMA							
ADJECTIVE	---	INF. LAUSER							
ADJECTIVE	---	INF. CONJUNCT							
ADJECTIVE	---	628K L. OBJ							
ADJECTIVE	---	628K OBJECT							
ADJECTIVE	---	628 L. OBJ							
ADJECTIVE	---	628 L. OBJ							

An Unrecognized Comparative Complement

Figure 97



UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.		
ACCOUNT	NO1.00	RASCHET	CUH-0376	ND11M000	1 N-A-----		1750F0000000		
ELECTRIC	AOA.00	FLEKTRICHES K-IV	CUH-0377	AD000000	0 -----GA-P		2171F0000000		
PARAMETER	NO1.00	PARAMETRY-OV	CUH-0378	ND11M000	0 -----G-----		1365F0000000		
STRIP	AOA.00	POLOSKU-YA	CUH-0379	AD000000	0 -----GA-P		1505F6666666		
LINE	NO1.00	LIN-IJ	CUH-0380	ND11F000	0 -----G-----		1001F0000000		
CHARACTERIST IC	AOA.00	KARAKTERISTI CHESK-OGO	CUH-0381	AD010000	0 -----G-----		2111F0000000		
RESISTANCE	NO1.00	SOPROTIVLEN' OJA	CUH-0382	ND11M100	0 -----G-----		18R310000000		
ATTENUATION	NO1.00	TATUXANT-JA	CUH-0383	ND11M000	0 -----G-----		069910000000		
ALSO	NO1.00	T	CUH-0384	ND11M000	0 -----G-----		0000F0000000		
SIMILAR	NO1.00	T.F.-	CUH-0385	ND11M000	0 -----G-----		0000F5000000		
BIT	NO1.00	T	CUH-0386	ND11M000	0 -----G-----		197878000000		
AND	NO1.00	T	CUH-0387	ND11M000	0 -----G-----		000010000000		
ALSO	NO1.00	TAKZH-E	CUH-0388	ND11M000	0 -----G-----		000015000000		
SEMANTIC BL ANK)	NOA.00	PARAMETRYOVNF ODNORODNOST- EJ	CUH-0389	ND11M000	0 -----G-----		1952F0000000		
ITEM	PO1.00	IV	CUH-0390	ND11M000	0 -----G-----		000020000000		
			CUH-0391	PN K PTP	0 -----G-----		1108F5000000		
			CUH-0392	PN K PTP	0 -----G-----				
			CUH-0393	PN K PTP	0 -----G-----				
			CUH-0394	PN K PTP	0 -----G-----				
			CUH-0395	PN K PTP	0 -----G-----				
			CUH-0396	PN K PTP	0 -----G-----				
			CUH-0397	PN K PTP	0 -----G-----				
			CUH-0398	PN K PTP	0 -----G-----				
			CUH-0399	PN K PTP	0 -----G-----				
			CUH-0400	PN K PTP	0 -----G-----				
			CUH-0401	PN K PTP	0 -----G-----				
			CUH-0402	PN K PTP	0 -----G-----				
			CUH-0403	PN K PTP	0 -----G-----				
			CUH-0404	PN K PTP	0 -----G-----				
			CUH-0405	PN K PTP	0 -----G-----				
			CUH-0406	PN K PTP	0 -----G-----				
			CUH-0407	PN K PTP	0 -----G-----				
			CUH-0408	PN K PTP	0 -----G-----				
			CUH-0409	PN K PTP	0 -----G-----				
			CUH-0410	PN K PTP	0 -----G-----				
			CUH-0411	PN K PTP	0 -----G-----				
			CUH-0412	PN K PTP	0 -----G-----				
			CUH-0413	PN K PTP	0 -----G-----				
			CUH-0414	PN K PTP	0 -----G-----				
			CUH-0415	PN K PTP	0 -----G-----				
			CUH-0416	PN K PTP	0 -----G-----				
			CUH-0417	PN K PTP	0 -----G-----				
			CUH-0418	PN K PTP	0 -----G-----				
			CUH-0419	PN K PTP	0 -----G-----				
			CUH-0420	PN K PTP	0 -----G-----				
			CUH-0421	PN K PTP	0 -----G-----				
			CUH-0422	PN K PTP	0 -----G-----				
			CUH-0423	PN K PTP	0 -----G-----				
			CUH-0424	PN K PTP	0 -----G-----				
			CUH-0425	PN K PTP	0 -----G-----				
			CUH-0426	PN K PTP	0 -----G-----				
			CUH-0427	PN K PTP	0 -----G-----				
			CUH-0428	PN K PTP	0 -----G-----				
			CUH-0429	PN K PTP	0 -----G-----				
			CUH-0430	PN K PTP	0 -----G-----				
			CUH-0431	PN K PTP	0 -----G-----				
			CUH-0432	PN K PTP	0 -----G-----				
			CUH-0433	PN K PTP	0 -----G-----				
			CUH-0434	PN K PTP	0 -----G-----				
			CUH-0435	PN K PTP	0 -----G-----				
			CUH-0436	PN K PTP	0 -----G-----				
			CUH-0437	PN K PTP	0 -----G-----				
			CUH-0438	PN K PTP	0 -----G-----				
			CUH-0439	PN K PTP	0 -----G-----				
			CUH-0440	PN K PTP	0 -----G-----				
			CUH-0441	PN K PTP	0 -----G-----				
			CUH-0442	PN K PTP	0 -----G-----				
			CUH-0443	PN K PTP	0 -----G-----				
			CUH-0444	PN K PTP	0 -----G-----				
			CUH-0445	PN K PTP	0 -----G-----				
			CUH-0446	PN K PTP	0 -----G-----				
			CUH-0447	PN K PTP	0 -----G-----				
			CUH-0448	PN K PTP	0 -----G-----				
			CUH-0449	PN K PTP	0 -----G-----				
			CUH-0450	PN K PTP	0 -----G-----				
			CUH-0451	PN K PTP	0 -----G-----				
			CUH-0452	PN K PTP	0 -----G-----				
			CUH-0453	PN K PTP	0 -----G-----				
			CUH-0454	PN K PTP	0 -----G-----				
			CUH-0455	PN K PTP	0 -----G-----				
			CUH-0456	PN K PTP	0 -----G-----				
			CUH-0457	PN K PTP	0 -----G-----				
			CUH-0458	PN K PTP	0 -----G-----				
			CUH-0459	PN K PTP	0 -----G-----				
			CUH-0460	PN K PTP	0 -----G-----				
			CUH-0461	PN K PTP	0 -----G-----				
			CUH-0462	PN K PTP	0 -----G-----				
			CUH-0463	PN K PTP	0 -----G-----				
			CUH-0464	PN K PTP	0 -----G-----				
			CUH-0465	PN K PTP	0 -----G-----				
			CUH-0466	PN K PTP	0 -----G-----				
			CUH-0467	PN K PTP	0 -----G-----				
			CUH-0468	PN K PTP	0 -----G-----				
			CUH-0469	PN K PTP	0 -----G-----				
			CUH-0470	PN K PTP	0 -----G-----				
			CUH-0471	PN K PTP	0 -----G-----				
			CUH-0472	PN K PTP	0 -----G-----				
			CUH-0473	PN K PTP	0 -----G-----				
			CUH-0474	PN K PTP	0 -----G-----				
			CUH-0475	PN K PTP	0 -----G-----				
			CUH-0476	PN K PTP	0 -----G-----				
			CUH-0477	PN K PTP	0 -----G-----				
			CUH-0478	PN K PTP	0 -----G-----				
			CUH-0479	PN K PTP	0 -----G-----				
			CUH-0480	PN K PTP	0 -----G-----				
			CUH-0481	PN K PTP	0 -----G-----				
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			CUH-0487	PN K PTP	0 -----G-----				
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			CUH-0492	PN K PTP	0 -----G-----				
			CUH-0493	PN K PTP	0 -----G-----				
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			CUH-0495	PN K PTP	0 -----G-----				
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			CUH-0500	PN K PTP	0 -----G-----				
			CUH-0501	PN K PTP	0 -----G-----				
			CUH-0502	PN K PTP	0 -----G-----				
			CUH-0503	PN K PTP	0 -----G-----				
			CUH-0504	PN K PTP	0 -----G-----				
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			CUH-0513	PN K PTP	0 -----G-----				
			CUH-0514	PN K PTP	0 -----G-----				
			CUH-0515	PN K PTP	0 -----G-----				
			CUH-0516	PN K PTP	0 -----G-----				
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			CUH-0518	PN K PTP	0 -----G-----				
			CUH-0519	PN K PTP	0 -----G-----				
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			CUH-0527	PN K PTP	0 -----G-----				
			CUH-0528	PN K PTP	0 -----G-----				
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			CUH-0530	PN K PTP	0 -----G-----				
			CUH-0531	PN K PTP	0 -----G-----				
			CUH-0532	PN K PTP	0 -----G-----				
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			CUH-0540	PN K PTP	0 -----G-----				
			CUH-0541	PN K PTP	0 -----G-----				
			CUH-0542	PN K PTP	0 -----G-----				
			CUH-0543	PN K PTP	0 -----G-----				
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			CUH-0545	PN K PTP	0 -----G-----				
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			CUH-0547	PN K PTP	0 -----G-----				
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			CUH-0551	PN K PTP	0 -----G-----				
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			CUH-0553	PN K PTP	0 -----G-----				
			CUH-0554	PN K PTP	0 -----G-----				
			CUH-0555	PN K PTP	0 -----G-----				
			CUH-0556	PN K PTP	0 -----G-----				
			CUH-0557	PN K PTP	0 -----G-----				
			CUH-05						



UNANALYZED TEXT			
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT
			SERIAL NO. WORD
possibility	NCA.00	VOZMOZHNOST' I	00A-1089
application	NCA.00	VOZMOZHNOST' I	00A-1090
each	NCA.00	PRIMENENI-I	00A-1091
each	NCA.00	PRIMENENI-I	00A-1092
each	NCA.00	PRIMENENI-I	00A-1093
each	NCA.00	PRIMENENI-I	00A-1094
each	NCA.00	PRIMENENI-I	00A-1095
each	NCA.00	PRIMENENI-I	00A-1096
each	NCA.00	PRIMENENI-I	00A-1097
each	NCA.00	PRIMENENI-I	00A-1098
each	NCA.00	PRIMENENI-I	00A-1099
each	NCA.00	PRIMENENI-I	00A-1100
each	NCA.00	PRIMENENI-I	00A-1101
each	NCA.00	PRIMENENI-I	00A-1102
each	NCA.00	PRIMENENI-I	00A-1103
each	NCA.00	PRIMENENI-I	00A-1104
each	NCA.00	PRIMENENI-I	00A-1105
each	NCA.00	PRIMENENI-I	00A-1106
each	NCA.00	PRIMENENI-I	00A-1107
each	NCA.00	PRIMENENI-I	00A-1108
each	NCA.00	PRIMENENI-I	00A-1109
each	NCA.00	PRIMENENI-I	00A-1110
each	NCA.00	PRIMENENI-I	00A-1111
each	NCA.00	PRIMENENI-I	00A-1112
each	NCA.00	PRIMENENI-I	00A-1113
each	NCA.00	PRIMENENI-I	00A-1114
each	NCA.00	PRIMENENI-I	00A-1115
each	NCA.00	PRIMENENI-I	00A-1116
each	NCA.00	PRIMENENI-I	00A-1117
each	NCA.00	PRIMENENI-I	00A-1118
each	NCA.00	PRIMENENI-I	00A-1119
each	NCA.00	PRIMENENI-I	00A-1120
each	NCA.00	PRIMENENI-I	00A-1121
each	NCA.00	PRIMENENI-I	00A-1122
each	NCA.00	PRIMENENI-I	00A-1123
each	NCA.00	PRIMENENI-I	00A-1124
each	NCA.00	PRIMENENI-I	00A-1125
each	NCA.00	PRIMENENI-I	00A-1126
each	NCA.00	PRIMENENI-I	00A-1127
each	NCA.00	PRIMENENI-I	00A-1128
each	NCA.00	PRIMENENI-I	00A-1129
each	NCA.00	PRIMENENI-I	00A-1130
each	NCA.00	PRIMENENI-I	00A-1131
each	NCA.00	PRIMENENI-I	00A-1132
each	NCA.00	PRIMENENI-I	00A-1133
each	NCA.00	PRIMENENI-I	00A-1134
each	NCA.00	PRIMENENI-I	00A-1135
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each	NCA.00	PRIMENENI-I	00A-1137
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each	NCA.00	PRIMENENI-I	00A-1140
each	NCA.00	PRIMENENI-I	00A-1141
each	NCA.00	PRIMENENI-I	00A-1142
each	NCA.00	PRIMENENI-I	00A-1143
each	NCA.00	PRIMENENI-I	00A-1144
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each	NCA.00	PRIMENENI-I	00A-1156
each	NCA.00	PRIMENENI-I	00A-1157
each	NCA.00	PRIMENENI-I	00A-1158
each	NCA.00	PRIMENENI-I	00A-1159
each	NCA.00	PRIMENENI-I	00A-1160
each	NCA.00	PRIMENENI-I	00A-1161
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each	NCA.00	PRIMENENI-I	00A-1167
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each	NCA.00	PRIMENENI-I	00A-1169
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each	NCA.00	PRIMENENI-I	00A-1180
each	NCA.00	PRIMENENI-I	00A-1181
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each	NCA.00	PRIMENENI-I	00A-1185
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each	NCA.00	PRIMENENI-I	00A-1193
each	NCA.00	PRIMENENI-I	00A-1194
each	NCA.00	PRIMENENI-I	00A-1195
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each	NCA.00	PRIMENENI-I	00A-1199
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each	NCA.00	PRIMENENI-I	00A-1201
each	NCA.00	PRIMENENI-I	00A-1202
each	NCA.00	PRIMENENI-I	00A-1203
each	NCA.00	PRIMENENI-I	00A-1204
each	NCA.00	PRIMENENI-I	00A-1205
each	NCA.00	PRIMENENI-I	00A-1206
each	NCA.00	PRIMENENI-I	00A-1207
each	NCA.00	PRIMENENI-I	00A-1208
each	NCA.00	PRIMENENI-I	00A-1209
each	NCA.00	PRIMENENI-I	00A-1210
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each	NCA.00	PRIMENENI-I	00A-1216
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each	NCA.00	PRIMENENI-I	00A-1218
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each	NCA.00	PRIMENENI-I	00A-1223
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each	NCA.00	PRIMENENI-I	00A-1227
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each	NCA.00	PRIMENENI-I	00A-1229
each	NCA.00	PRIMENENI-I	00A-1230
each	NCA.00	PRIMENENI-I	00A-1231
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each	NCA.00	PRIMENENI-I	00A-1237
each	NCA.00	PRIMENENI-I	00A-1238
each	NCA.00	PRIMENENI-I	00A-1239
each	NCA.00	PRIMENENI-I	00A-1240
each	NCA.00	PRIMENENI-I	00A-1241
each	NCA.00	PRIMENENI-I	00A-1242
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each	NCA.00	PRIMENENI-I	00A-1257
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each	NCA.00	PRIMENENI-I	00A-1277
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each	NCA.00	PRIMENENI-I	00A-1339
each	NCA.00	PRIMENENI-I	00A-1340
each	NCA.00	PRIMENENI-I	00A-1341
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each	NCA.00	PRIMENENI-I	00A-1343
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each	NCA.00	PRIMENENI-I	00A-1349
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each	NCA.00	PRIMENENI-I	00A-1356
each	NCA.00	PRIMENENI-I	00A-1357
each	NCA.00	PRIMENENI-I	00A-1358
each	NCA.00	PRIMENENI-I	00A-1359
each	NCA.00	PRIMENENI-I	00A-1360
each	NCA.00	PRIMENENI-I	00A-1361
each	NCA.00	PRIMENENI-I	00A-1362
each	NCA.00	PRIMENENI-I	00A-1363
each	NCA.00	PRIMENENI-I	00A-1364
each	NCA.00	PRIMENENI-I	00A-1365
each	NCA.00	PRIMENENI-I	00A-1366
each	NCA.00	PRIMENENI-I	00A-1367
each	NCA.00	PRIMENENI-I	00A-1368
each	NCA.00	PRIMENENI-I	00A-1369
each	NCA.00	PRIMENENI-I	00A-1370
each	NCA.00	PRIMENENI-I	00A-1371
each	NCA.00	PRIMENENI-I	00A-1372
each	NCA.00	PRIMENENI-I	00A-1373
each	NCA.00	PRIMENENI-I	00A-

A Parenthetic Expression Set Off by Quotes

Figure 100

UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO	ORGANIZED WORD	ALT RNATIVE	ARGUMENTS	3rd SEMIORGANIZED WORD	DICTIONARY SERIAL NO
... ..	ADP	... ..	001-0145	ADP0000	0	---		110000000000
... ..	ADP	... ..	001-0146	ADP10000	0	---		100000000000
... ..	ADP	... ..	001-0147	ADP20000	0	---		100000000000
... ..	ADP	... ..	001-0148	ADP30000	0	---		100000000000
... ..	ADP	... ..	001-0149	ADP40000	0	---		100000000000
... ..	ADP	... ..	001-0150	ADP50000	0	---		100000000000
... ..	ADP	... ..	001-0151	ADP60000	0	---		100000000000
... ..	ADP	... ..	001-0152	ADP70000	0	---		100000000000
... ..	ADP	... ..	001-0153	ADP80000	0	---		100000000000
... ..	ADP	... ..	001-0154	ADP90000	0	---		100000000000
... ..	ADP	... ..	001-0155	ADP100000	0	---		100000000000
... ..	ADP	... ..	001-0156	ADP110000	0	---		100000000000
... ..	ADP	... ..	001-0157	ADP120000	0	---		100000000000
... ..	ADP	... ..	001-0158	ADP130000	0	---		100000000000
... ..	ADP	... ..	001-0159	ADP140000	0	---		100000000000
... ..	ADP	... ..	001-0160	ADP150000	0	---		100000000000
... ..	ADP	... ..	001-0161	ADP160000	0	---		100000000000
... ..	ADP	... ..	001-0162	ADP170000	0	---		100000000000
... ..	ADP	... ..	001-0163	ADP180000	0	---		100000000000
... ..	ADP	... ..	001-0164	ADP190000	0	---		100000000000
... ..	ADP	... ..	001-0165	ADP200000	0	---		100000000000
... ..	ADP	... ..	001-0166	ADP210000	0	---		100000000000
... ..	ADP	... ..	001-0167	ADP220000	0	---		100000000000
... ..	ADP	... ..	001-0168	ADP230000	0	---		100000000000
... ..	ADP	... ..	001-0169	ADP240000	0	---		100000000000
... ..	ADP	... ..	001-0170	ADP250000	0	---		100000000000
... ..	ADP	... ..	001-0171	ADP260000	0	---		100000000000
... ..	ADP	... ..	001-0172	ADP270000	0	---		100000000000
... ..	ADP	... ..	001-0173	ADP280000	0	---		100000000000
... ..	ADP	... ..	001-0174	ADP290000	0	---		100000000000
... ..	ADP	... ..	001-0175	ADP300000	0	---		100000000000
... ..	ADP	... ..	001-0176	ADP310000	0	---		100000000000
... ..	ADP	... ..	001-0177	ADP320000	0	---		100000000000
... ..	ADP	... ..	001-0178	ADP330000	0	---		100000000000
... ..	ADP	... ..	001-0179	ADP340000	0	---		100000000000
... ..	ADP	... ..	001-0180	ADP350000	0	---		100000000000
... ..	ADP	... ..	001-0181	ADP360000	0	---		100000000000
... ..	ADP	... ..	001-0182	ADP370000	0	---		100000000000
... ..	ADP	... ..	001-0183	ADP380000	0	---		100000000000
... ..	ADP	... ..	001-0184	ADP390000	0	---		100000000000
... ..	ADP	... ..	001-0185	ADP400000	0	---		100000000000
... ..	ADP	... ..	001-0186	ADP410000	0	---		100000000000
... ..	ADP	... ..	001-0187	ADP420000	0	---		100000000000
... ..	ADP	... ..	001-0188	ADP430000	0	---		100000000000
... ..	ADP	... ..	001-0189	ADP440000	0	---		100000000000
... ..	ADP	... ..	001-0190	ADP450000	0	---		100000000000
... ..	ADP	... ..	001-0191	ADP460000	0	---		100000000000
... ..	ADP	... ..	001-0192	ADP470000	0	---		100000000000
... ..	ADP	... ..	001-0193	ADP480000	0	---		100000000000
... ..	ADP	... ..	001-0194	ADP490000	0	---		100000000000
... ..	ADP	... ..	001-0195	ADP500000	0	---		100000000000
... ..	ADP	... ..	001-0196	ADP510000	0	---		100000000000
... ..	ADP	... ..	001-0197	ADP520000	0	---		100000000000
... ..	ADP	... ..	001-0198	ADP530000	0	---		100000000000
... ..	ADP	... ..	001-0199	ADP540000	0	---		100000000000
... ..	ADP	... ..	001-0200	ADP550000	0	---		100000000000

ANALYZED TEXT

SIZE OF POOL	CHAIN NO	SYNTACTIC ROLE
00 10	001-0145	111 SUBJECT
00 10	001-0146	185 SUBJECT
00 10	001-0147	INF ARBYR
00 10	001-0148	INF ARBYR
00 10	001-0149	INF ARBYR
00 10	001-0150	INF ARBYR
00 10	001-0151	INF ARBYR
00 10	001-0152	INF ARBYR
00 10	001-0153	INF ARBYR
00 10	001-0154	INF ARBYR
00 10	001-0155	INF ARBYR
00 10	001-0156	INF ARBYR
00 10	001-0157	INF ARBYR
00 10	001-0158	INF ARBYR
00 10	001-0159	INF ARBYR
00 10	001-0160	INF ARBYR
00 10	001-0161	INF ARBYR
00 10	001-0162	INF ARBYR
00 10	001-0163	INF ARBYR
00 10	001-0164	INF ARBYR
00 10	001-0165	INF ARBYR
00 10	001-0166	INF ARBYR
00 10	001-0167	INF ARBYR
00 10	001-0168	INF ARBYR
00 10	001-0169	INF ARBYR
00 10	001-0170	INF ARBYR
00 10	001-0171	INF ARBYR
00 10	001-0172	INF ARBYR
00 10	001-0173	INF ARBYR
00 10	001-0174	INF ARBYR
00 10	001-0175	INF ARBYR
00 10	001-0176	INF ARBYR
00 10	001-0177	INF ARBYR
00 10	001-0178	INF ARBYR
00 10	001-0179	INF ARBYR
00 10	001-0180	INF ARBYR
00 10	001-0181	INF ARBYR
00 10	001-0182	INF ARBYR
00 10	001-0183	INF ARBYR
00 10	001-0184	INF ARBYR
00 10	001-0185	INF ARBYR
00 10	001-0186	INF ARBYR
00 10	001-0187	INF ARBYR
00 10	001-0188	INF ARBYR
00 10	001-0189	INF ARBYR
00 10	001-0190	INF ARBYR
00 10	001-0191	INF ARBYR
00 10	001-0192	INF ARBYR
00 10	001-0193	INF ARBYR
00 10	001-0194	INF ARBYR
00 10	001-0195	INF ARBYR
00 10	001-0196	INF ARBYR
00 10	001-0197	INF ARBYR
00 10	001-0198	INF ARBYR
00 10	001-0199	INF ARBYR
00 10	001-0200	INF ARBYR

HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
001-0145	INF ARBYR
001-0146	INF ARBYR
001-0147	INF ARBYR
001-0148	INF ARBYR
001-0149	INF ARBYR
001-0150	INF ARBYR
001-0151	INF ARBYR
001-0152	INF ARBYR
001-0153	INF ARBYR
001-0154	INF ARBYR
001-0155	INF ARBYR
001-0156	INF ARBYR
001-0157	INF ARBYR
001-0158	INF ARBYR
001-0159	INF ARBYR
001-0160	INF ARBYR
001-0161	INF ARBYR
001-0162	INF ARBYR
001-0163	INF ARBYR
001-0164	INF ARBYR
001-0165	INF ARBYR
001-0166	INF ARBYR
001-0167	INF ARBYR
001-0168	INF ARBYR
001-0169	INF ARBYR
001-0170	INF ARBYR
001-0171	INF ARBYR
001-0172	INF ARBYR
001-0173	INF ARBYR
001-0174	INF ARBYR
001-0175	INF ARBYR
001-0176	INF ARBYR
001-0177	INF ARBYR
001-0178	INF ARBYR
001-0179	INF ARBYR
001-0180	INF ARBYR
001-0181	INF ARBYR
001-0182	INF ARBYR
001-0183	INF ARBYR
001-0184	INF ARBYR
001-0185	INF ARBYR
001-0186	INF ARBYR
001-0187	INF ARBYR
001-0188	INF ARBYR
001-0189	INF ARBYR
001-0190	INF ARBYR
001-0191	INF ARBYR
001-0192	INF ARBYR
001-0193	INF ARBYR
001-0194	INF ARBYR
001-0195	INF ARBYR
001-0196	INF ARBYR
001-0197	INF ARBYR
001-0198	INF ARBYR
001-0199	INF ARBYR
001-0200	INF ARBYR

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.	
TYPE	ADP	ПОДПИСЬ	004-0507	ADDP000	-----N-A-----	P2		1475400000000	
АНТЕННА	ADP	АНТЕННА-ВЕ	004-0508	ADDP000	-----N-A-----			0031000000000	
СИСТЕМА	NCH	СИСТЕМА-В	004-0509	ADDP000	-----N-A-----			184422857142	
УСТРОЙСТВО	NCH	УСТРОЙСТВО-В	004-0510	ADDP000	-----N-A-----			1271100000000	
КАБЕЛЬ	CCP	КАБЕЛЬ-В	004-0511	ADDP000	-----N-A-----			0000200000000	
КОЛЛЕКЦИЯ	NCH	КОЛЛЕКЦИЯ-В	004-0512	ADDP000	-----N-A-----			0465000000000	
...	...	...	004-0513	ADDP000	-----N-A-----			1921200000000	
...	...	...	004-0514	ADDP000	-----N-A-----			1801150000000	
...	...	...	004-0515	ADDP000	-----N-A-----				
ANALYZED TEXT									
CHAIN NO.	SIZE OF	SYNTACTIC	PREFERRED ARGUMENT	ALTERNATIVE	INTERSECTING ARGUMENTS	ALTERNATIVE	ROLE	ROLE	
00 1A	004-0507	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 11	004-0508	507	ADDP000	-----N-A-----	-----N-A-----	507	L OBJ	L OBJ	
00 11	004-0509	508	ADDP000	-----N-A-----	-----N-A-----	508	L OBJ	L OBJ	
00 11	004-0510	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 06	004-0511	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 09	004-0512	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 1A	004-0513	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 1A	004-0514	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
00 1A	004-0515	111	ADDP000	-----N-A-----	-----N-A-----	111	L OBJ	L OBJ	
HINDSIGHT									
ADP	ПОДПИСЬ	АНТЕННА	СИСТЕМА	УСТРОЙСТВО	КАБЕЛЬ	КОЛЛЕКЦИЯ	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...
ADP	АНТЕННА-ВЕ	АНТЕННА-ВЕ	СИСТЕМА-В	УСТРОЙСТВО-В	КАБЕЛЬ-В	КОЛЛЕКЦИЯ-В	...	...	...

An Analyzed Sentence  
Figure 102

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE	ARGUMENTS	SEMIORGANIZED WORD	3rd	DICTIONARY SERIAL NO.
TO GO	GO	IDTI	004-0049	0PXPXKJUP	--1--	C	000010000000		124418124999
TO GO	GO	IZ	004-0050		-G--		000000000000		074050000000
TO GO	GO	IZ	004-0051	NDI1NGCO	1		000000000000		190900000000
TO GO	GO	IZ	004-0052	ANCOPOCC	0		000000000000		154371666666
TO GO	GO	IZ	004-0053	NDI1NGCO			000000000000		177890000000
TO GO	GO	IZ	004-0054	PK K IPT	0		000000000000		216922708330
TO GO	GO	IZ	004-0055	NDI4FCNO			000000000000		060910000000
TO GO	GO	IZ	004-0056	UN UNQOPO			000000000000		219270000000
TO GO	GO	IZ	004-0057	NDI1MOOO			000000000000		167710000000
TO GO	GO	IZ	004-0058	NDI1F1CO			000000000000		197700000000
TO GO	GO	IZ	004-0059	NDI1MOOO			000000000000		142670000000
TO GO	GO	IZ	004-0060	NDI2FOYO	1		000000000000		194309444448

NAME	CHAIN NO	POOL	SIZE OF	PREFERRED ARGUMENT		SYNTACTIC ROLE
				1	2	
COI,CO	00	1R	004-0049	0	0	111
LOI,LO	00	0Q	004-0050	0	0	111
LOI,LO	00	0Q	004-0051	0	0	111
LOI,LO	00	0Q	004-0052	0	0	111
LOI,LO	00	0Q	004-0053	0	0	111
LOI,LO	00	0Q	004-0054	0	0	111
LOI,LO	00	0Q	004-0055	0	0	111
LOI,LO	00	0Q	004-0056	0	0	111
LOI,LO	00	0Q	004-0057	0	0	111
LOI,LO	00	0Q	004-0058	0	0	111
LOI,LO	00	0Q	004-0059	0	0	111
LOI,LO	00	0Q	004-0060	0	0	111
LOI,LO	00	0Q	004-0061	0	0	111
LOI,LO	00	0Q	004-0062	0	0	111
LOI,LO	00	0Q	004-0063	0	0	111
LOI,LO	00	0Q	004-0064	0	0	111
LOI,LO	00	0Q	004-0065	0	0	111
LOI,LO	00	0Q	004-0066	0	0	111
LOI,LO	00	0Q	004-0067	0	0	111
LOI,LO	00	0Q	004-0068	0	0	111
LOI,LO	00	0Q	004-0069	0	0	111
LOI,LO	00	0Q	004-0070	0	0	111
LOI,LO	00	0Q	004-0071	0	0	111
LOI,LO	00	0Q	004-0072	0	0	111
LOI,LO	00	0Q	004-0073	0	0	111
LOI,LO	00	0Q	004-0074	0	0	111
LOI,LO	00	0Q	004-0075	0	0	111
LOI,LO	00	0Q	004-0076	0	0	111
LOI,LO	00	0Q	004-0077	0	0	111
LOI,LO	00	0Q	004-0078	0	0	111
LOI,LO	00	0Q	004-0079	0	0	111
LOI,LO	00	0Q	004-0080	0	0	111
LOI,LO	00	0Q	004-0081	0	0	111
LOI,LO	00	0Q	004-0082	0	0	111
LOI,LO	00	0Q	004-0083	0	0	111
LOI,LO	00	0Q	004-0084	0	0	111
LOI,LO	00	0Q	004-0085	0	0	111
LOI,LO	00	0Q	004-0086	0	0	111
LOI,LO	00	0Q	004-0087	0	0	111
LOI,LO	00	0Q	004-0088	0	0	111
LOI,LO	00	0Q	004-0089	0	0	111
LOI,LO	00	0Q	004-0090	0	0	111
LOI,LO	00	0Q	004-0091	0	0	111
LOI,LO	00	0Q	004-0092	0	0	111
LOI,LO	00	0Q	004-0093	0	0	111
LOI,LO	00	0Q	004-0094	0	0	111
LOI,LO	00	0Q	004-0095	0	0	111
LOI,LO	00	0Q	004-0096	0	0	111
LOI,LO	00	0Q	004-0097	0	0	111
LOI,LO	00	0Q	004-0098	0	0	111
LOI,LO	00	0Q	004-0099	0	0	111
LOI,LO	00	0Q	004-0100	0	0	111
LOI,LO	00	0Q	004-0101	0	0	111
LOI,LO	00	0Q	004-0102	0	0	111
LOI,LO	00	0Q	004-0103	0	0	111
LOI,LO	00	0Q	004-0104	0	0	111
LOI,LO	00	0Q	004-0105	0	0	111</

	INTERSECTING	ARGUMENTS	ALTERNATIVE ROLE
1	004-0049	FNXPBJPV	III L OBJ
2	004-0049	FNXPBJPV	III L OBJ
3	004-0049	FNXPBJPV	III L OBJ
4	004-0049	FNXPBJPV	III L OBJ
5	004-0049	FNXPBJPV	III L OBJ
6	004-0049	FNXPBJPV	III L OBJ
7	004-0049	FNXPBJPV	III L OBJ
8	004-0049	FNXPBJPV	III L OBJ
9	004-0049	FNXPBJPV	III L OBJ
10	004-0049	FNXPBJPV	III L OBJ
11	004-0049	FNXPBJPV	III L OBJ
12	004-0049	FNXPBJPV	III L OBJ
13	004-0049	FNXPBJPV	III L OBJ
14	004-0049	FNXPBJPV	III L OBJ
15	004-0049	FNXPBJPV	III L OBJ
16	004-0049	FNXPBJPV	III L OBJ
17	004-0049	FNXPBJPV	III L OBJ
18	004-0049	FNXPBJPV	III L OBJ
19	004-0049	FNXPBJPV	III L OBJ
20	004-0049	FNXPBJPV	III L OBJ
21	004-0049	FNXPBJPV	III L OBJ
22	004-0049	FNXPBJPV	III L OBJ
23	004-0049	FNXPBJPV	III L OBJ
24	004-0049	FNXPBJPV	III L OBJ
25	004-0049	FNXPBJPV	III L OBJ
26	004-0049	FNXPBJPV	III L OBJ
27	004-0049	FNXPBJPV	III L OBJ
28	004-0049	FNXPBJPV	III L OBJ
29	004-0049	FNXPBJPV	III L OBJ
30	004-0049	FNXPBJPV	III L OBJ
31	004-0049	FNXPBJPV	III L OBJ
32	004-0049	FNXPBJPV	III L OBJ
33	004-0049	FNXPBJPV	III L OBJ
34	004-0049	FNXPBJPV	III L OBJ
35	004-0049	FNXPBJPV	III L OBJ
36	004-0049	FNXPBJPV	III L OBJ
37	004-0049	FNXPBJPV	III L OBJ
38	004-0049	FNXPBJPV	III L OBJ
39	004-0049	FNXPBJPV	III L OBJ
40	004-0049	FNXPBJPV	III L OBJ
41	004-0049	FNXPBJPV	III L OBJ
42	004-0049	FNXPBJPV	III L OBJ
43	004-0049	FNXPBJPV	III L OBJ
44	004-0049	FNXPBJPV	III L OBJ
45	004-0049	FNXPBJPV	III L OBJ
46	004-0049	FNXPBJPV	III L OBJ
47	004-0049	FNXPBJPV	III L OBJ
48	004-0049	FNXPBJPV	III L OBJ
49	004-0049	FNXPBJPV	III L OBJ
50	004-0049	FNXPBJPV	III L OBJ
51	004-0049	FNXPBJPV	III L OBJ
52	004-0049	FNXPBJPV	III L OBJ
53	004-0049	FNXPBJPV	III L OBJ
54	004-0049	FNXPBJPV	III L OBJ
55	004-0049	FNXPBJPV	III L OBJ
56	004-0049	FNXPBJPV	III L OBJ
57	004-0049	FNXPBJPV	III L OBJ
58	004-0049	FNXPBJPV	III L OBJ
59	004-0049	FNXPBJPV	III L OBJ
60	004-0049	FNXPBJPV	III L OBJ
61	004-0049	FNXPBJPV	III L OBJ
62	004-0049	FNXPBJPV	III L OBJ
63	004-0049	FNXPBJPV	III L OBJ
64	004-0049	FNXPBJPV	III L OBJ
65	004-0049	FNXPBJPV	III L OBJ
66	004-0049	FNXPBJPV	III L OBJ
67	004-0049	FNXPBJPV	III L OBJ
68	004-0049	FNXPBJPV	III L OBJ
69	004-0049	FNXPBJPV	III L OBJ
70	004-0049	FNXPBJPV	III L OBJ
71	004-0049	FNXPBJPV	III L OBJ
72	004-0049	FNXPBJPV	III L OBJ
73	004-0049	FNXPBJPV	III L OBJ
74	004-0049	FNXPBJPV	III L OBJ
75	004-0049	FNXPBJPV	III L OBJ
76	004-0049	FNXPBJPV	III L OBJ
77	004-0049	FNXPBJPV	III L OBJ
78	004-0049	FNXPBJPV	III L OBJ
79	004-0049	FNXPBJPV	III L OBJ
80	004-0049	FNXPBJPV	III L OBJ
81	004-0049	FNXPBJPV	III L OBJ
82	004-0049	FNXPBJPV	III L OBJ
83	004-0049	FNXPBJPV	III L OBJ
84	004-0049	FNXPBJPV	III L OBJ
85	0		

An Analyzed Sentence  
Figure 103

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	3rd	DICTIONARY SERIAL NO.
NUMERATE	V04.00	PERFECTLY-1	00K-0117	VS OP30000	---	B284		14201428571
A PER	001.00	NEKULY-C	00K-0118	PN XEACUNYK	N-A---N-A---A-A---A-A---	000000000000		11895033328
SOMEWHAT	101.00	NEKULY-C	00K-0118	M	---			11895033328
PROBLEM	004.10	ZALACH	00K-0119	ND14F000	---			06090000000
..			00K-0120		---			
ILLUSTRATING	004.00	ILLUSTROIU USCH-IX	00K-0121	AD0100 40	---			078509230760
NECESSITY	004.00	NECESSITIOSY -Y	00K-0122	ND11F000	---	P700		117522500001
DESIGNING	004.00	DESIGNI-JA	00K-0123	ND11N100	---	P2P9		117522500001
THEORY	007.00	TEORI-I	00K-0124	ND11F000	---	P4		133070000000
PROCESS	002.00	SLUCHAY-YX	00K-0125	AD000000 0	---			107100000000
..	001.00	PRITSE-CV	00K-0126	ND11M000	---			18571145827
..			00K-0127		---			164970000000
NEW PARAGRAPH	004.00	NEW PARAGRAPH	00K-0128		---			
PRESENTED	004.00	PRESENTAV-IM	00K-0129	AD000000 01	---			195775000000
PRESENT	004.01	PRESENTAV-IM	00K-0129	VS00P3L200	---	B284		195775000000
UNSELF	001.00	SE-E	00K-0130	PN K AX L	---			18245666666
..			00K-0131		---			
THAT	101.00	CHT-U	00K-0132	PNCT STR1 0	---			213808750000
..	001.00	CHT-U	00K-0133	PN A RVP 0	---			213808750000
..	001.00	CHT-U	00K-0134	VSROP80000	---			10231333333
IF GIVEN A - ASK	004.00	ZALACH-10	00K-0135	VSROP80000	---	B1		060928000000
ATM	004.00	TSEL-TU	00K-0136	ND11F000	---	P2		211870000000
TRACE	004.00	PRUCLECT-T	00K-0137	VS OP30000	---			163910000000
FOR	101.00	Z-A	00K-0138	ND11N100	---	B086		037200000000
ACCOMENT	004.00	DVIZHENI-EM	00K-0139	PN K STT 0	---	1A0R00800680		045910000000
SOME	004.00	KAKU-LTR-C	00K-0140	ND12F000	---	P4		08545120304
MOLECULE	004.00	MOLEKUL-Y	00K-0141	ND11M000	---			110049285710
GAS	101.00	GAZ-A	00K-0142		---			039950000000
..	101.00	IL-T	00K-0143	ND11F100	---			078400000000
..	004.00	ZHINKOST-I	00K-0144		---	P2		057070000000

An Analyzed Sentence

Figure 104

ANALYZED TEXT									
	CHAIN NO.	SIZE OF POOL	SYNTACTIC ROLE	PREFERRED ARGUMENT	B2B4	III	V	PRED	
UNREPAIRED	004.00	PERFCHICL-IV	00 18 00K-0117	VS 0P30000	000000000000	111			
ALFE*	001.00	NEKULIK-0	00 07 00K-0118	NAEACUNYKK	000000000000	117			
PROBLEP	004.10	ZADACH-	00 11 00K-0119	ND14F000	000000000000	118			
ILLUSTRATING	004.00	ILLJUSUPIRUJ USHCH-IX	00 11 00K-0120		000000000000	119			
NECESSITY	004.00	NEGXOUIMOST -	00 18 00K-0121	AD0100 40	000000000000	121			
DESIGNING	007.00	POSTROEPI-JA	00 23 00K-0122	ND11F000	000000000000	122			
THEORY	007.00	TEORI-I	00 27 00K-0123	ND11N100	000000000000	123			
WINDUP	002.00	SLUCHAJN-YX	00 30 00K-0124	ND11F000	000000000000	124			
PROCES	001.00	PROTSFSS-OV	00 34 00K-0125	AD000000 0	000000000000	125			
			00 34 00K-0126	ND11M000	000000000000	END OF SENT.			
			00 34 00K-0127						
HINDSIGHT									
ALFE*	001.00	NEKULIK-0	00K-01181	PNXEACUNYKK	000000000000	117			
SOMEWHAT	001.00	NEKULIK-0	00K-01182		000000000000	118			
			00K-0120		000000000000	119			
THEORY	007.00	TEORI-I	00K-0124	ND11F000	000000000000	121			
WINDUP	002.00	SLUCHAJN-YX	00K-0125	AD000000 0	000000000000	122			
PROCES	001.00	PROTSFSS-OV	00K-0126	ND11M000	000000000000	123			
			00K-0127		000000000000	END OF SENT.			

Figure 104 (continued)

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE	ARGUMENTS	SEMIORGANIZED WORD	3rd	DICTIONARY SERIAL NO.
SIX	001.00	SHE-S-T.	00H-0410	CA RACJPKKK	N-A	-N-A	000000000000		2143150000000
COLLECTION	001.20	STAT-EJ	00H-0411	ND11F000	-G	-A			1920766666666
QUESTION	001.10	SEBNIK-A	00H-0412	ND11M000	-G	-A			1801150000000
PRECISE	001.00	POSVJASHCHEN -Y	00H-0413	AD0000 130	-N	-A	P7L2 P3C4		1524084210400
ALSO	002.00	TOCHN-UGC	00H-0414	ND11M000	-C	-A			0231700000000
APPROXIMATE	101.00	-I	00H-0415	AD00000 0	-GA	-B			1987700000000
INTERVIEWING	101.00	PRILIZHENN- OG	00H-0416	AD00000 30	-GA	-B			0000000000000
THESE	001.00	OPAFELFNI-J A	00H-0417	ND11M000	-G	-N	P300		1576750000000
QUANTITY	004.00	VELTCHIN-	00H-0418	PK K PTD 0	-GA	-P	PA		1277200000000
			00H-0419	ND12F000	-G	-A			2189227083300
			00H-0420		-G	-F			0130700000000
			00H-0421						
ANALYZED TEXT									
SIZE OF POOL									
CHAIN NO.	SIZE OF POOL	SYNTACTIC ROLE	PREFERRED ARGUMENT	INTERSECTING ARGUMENTS	ALTERNATIVE ARGUMENTS	SYNTACTIC ROLE	ALTERNATIVE ARGUMENTS	ALTERNATIVE ARGUMENTS	ALTERNATIVE ARGUMENTS
001.00	18	SHE-S-T.	CA RACJPKKK	00H-0410	N	-N	000000000000	111	SUBJECT
001.20	10	STAT-EJ	ND11F000	00H-0411	-G	-A		410	SUBJECT
001.10	10	SEBNIK-A	ND11M000	00H-0412	-G	-A		411	N COMP
001.00	13	POSVJASHCHEN -Y	AD0000 130	00H-0413	-N	-A	R4P2 P3C4	111	N COMP
001.00	07	TOCHN-UGC	ND11M000	00H-0414	-C	-A		413	OBJECT
001.00	10	TOCHN-UGC	AD00000 0	00H-0415	-G	-B		414	N COMP
101.00	14	-I	AD00000 30	00H-0416	-G	-B		1NF	CONJUNCT
001.00	15	PRILIZHENN- OG	ND11M000	00H-0417	-G	-N	R400	415	N COMP
001.00	18	OPAFELFNI-J A	ND11M000	00H-0418	-G	-N	R4	417	N COMP
001.00	16	FHT-IX	PK K PTD 0	00H-0419	-G	-A		418	N COMP
004.00	20	VELTCHIN-	ND12F000	00H-0420	-G	-A		419	N COMP
004.00	20	VELTCHIN-		00H-0421	-G	-F		END	OF SENT.
HINDSIGHT									
001.00	18	SHE-S-T.	CA RACJPKKK	00H-0410	N	-N	000000000000	111	SUBJECT
001.20	10	STAT-EJ	ND11F000	00H-0411	-G	-A		410	SUBJECT
001.10	10	SEBNIK-A	ND11M000	00H-0412	-G	-A		411	N COMP
001.00	13	POSVJASHCHEN -Y	AD0000 130	00H-0413	-N	-A	000000000000	111	L OBJ
001.00	07	TOCHN-UGC	ND11M000	00H-0414	-C	-A		111	L OBJ
001.00	10	TOCHN-UGC	AD00000 0	00H-0415	-G	-B		413	OBJECT
101.00	14	-I	AD00000 30	00H-0416	-G	-B		1NF	ADVB
001.00	15	PRILIZHENN- OG	ND11M000	00H-0417	-G	-N	R400	415	N COMP
001.00	18	OPAFELFNI-J A	ND11M000	00H-0418	-G	-N	R400	417	N COMP
001.00	16	FHT-IX	PK K PTD 0	00H-0419	-G	-A		418	N COMP
004.00	20	VELTCHIN-	ND12F000	00H-0420	-G	-A		419	N COMP
004.00	20	VELTCHIN-		00H-0421	-G	-F		END	OF SENT.

An Analyzed Sentence

An Analyzed Sentence  
Figure 106

[illegible]

Figure 106 (continued)

[illegible]

An Analyzed Sentence

HINDSIGHT		INTERSECTING ARGUMENTS		ALTERNATIVE ROLE
1	00H-03451	AD000000	0	INF ADVB
2	00H-03452	M		INF ADVB
3	00H-03458	X		111 A PRED
4	00H-03462			INF CLAUSER
5	00H-03466			INF CONJUNCT
6	00H-03470	PN K PTRITO		347K L OBJ
7	00H-03474	PA K PTRITO		347K L OBJ
8	00H-03478	PN K PTRITO		347K L OBJ
9	00H-03482	AD000000	0	347K L OBJ
10	00H-03486	AD000000	0	347K L OBJ
11	00H-03490	AD000000	0	347K L OBJ
12	00H-03494	AD000000	0	347K L OBJ
13	00H-03498	AD000000	0	347K L OBJ
14	00H-03502	AD000000	0	347K L OBJ
15	00H-03506	AD000000	0	347K L OBJ
16	00H-03510	AD000000	0	347K L OBJ
17	00H-03514	AD000000	0	347K L OBJ
18	00H-03518	AD000000	0	347K L OBJ
19	00H-03522	AD000000	0	347K L OBJ
20	00H-03526	AD000000	0	347K L OBJ
21	00H-03530	AD000000	0	347K L OBJ
22	00H-03534	AD000000	0	347K L OBJ
23	00H-03538	AD000000	0	347K L OBJ
24	00H-03542	AD000000	0	347K L OBJ
25	00H-03546	AD000000	0	347K L OBJ
26	00H-03550	AD000000	0	347K L OBJ
27	00H-03554	AD000000	0	347K L OBJ
28	00H-03558	AD000000	0	347K L OBJ
29	00H-03562	AD000000	0	347K L OBJ
30	00H-03566	AD000000	0	347K L OBJ
31	00H-03570	AD000000	0	347K L OBJ
32	00H-03574	AD000000	0	347K L OBJ
33	00H-03578	AD000000	0	347K L OBJ
34	00H-03582	AD000000	0	347K L OBJ
35	00H-03586	AD000000	0	347K L OBJ
36	00H-03590	AD000000	0	347K L OBJ
37	00H-03594	AD000000	0	347K L OBJ
38	00H-03598	AD000000	0	347K L OBJ
39	00H-03602	AD000000	0	347K L OBJ
40	00H-03606	AD000000	0	347K L OBJ
41	00H-03610	AD000000	0	347K L OBJ
42	00H-03614	AD000000	0	347K L OBJ
43	00H-03618	AD000000	0	347K L OBJ
44	00H-03622	AD000000	0	347K L OBJ
45	00H-03626	AD000000	0	347K L OBJ
46	00H-03630	AD000000	0	347K L OBJ
47	00H-03634	AD000000	0	347K L OBJ
48	00H-03638	AD000000	0	347K L OBJ
49	00H-03642	AD000000	0	347K L OBJ
50	00H-03646	AD000000	0	347K L OBJ
51	00H-03650	AD000000	0	347K L OBJ
52	00H-03654	AD000000	0	347K L OBJ
53	00H-03658	AD000000	0	347K L OBJ
54	00H-03662	AD000000	0	347K L OBJ
55	00H-03666	AD000000	0	347K L OBJ
56	00H-03670	AD000000	0	347K L OBJ
57	00H-03674	AD000000	0	347K L OBJ
58	00H-03678	AD000000	0	347K L OBJ
59	00H-03682	AD000000	0	347K L OBJ
60	00H-03686	AD000000	0	347K L OBJ
61	00H-03690	AD000000	0	347K L OBJ
62	00H-03694	AD000000	0	347K L OBJ
63	00H-03698	AD000000	0	347K L OBJ
64	00H-03702	AD000000	0	347K L OBJ
65	00H-03706	AD000000	0	347K L OBJ
66	00H-03710	AD000000	0	347K L OBJ
67	00H-03714	AD000000	0	347K L OBJ
68	00H-03718	AD000000	0	347K L OBJ
69	00H-03722	AD000000	0	347K L OBJ
70	00H-03726	AD000000	0	347K L OBJ
71	00H-03730	AD000000	0	347K L OBJ
72	00H-03734	AD000000	0	347K L OBJ
73	00H-03738	AD000000	0	347K L OBJ
74	00H-03742	AD000000	0	347K L OBJ
75	00H-03746	AD000000	0	347K L OBJ
76	00H-03750	AD000000	0	347K L OBJ
77	00H-03754	AD000000	0	347K L OBJ
78	00H-03758	AD000000	0	347K L OBJ
79	00H-03762	AD000000	0	347K L OBJ
80	00H-03766	AD000000	0	347K L OBJ
81	00H-03770	AD000000	0	347K L OBJ
82	00H-03774	AD000000	0	347K L OBJ
83	00H-03778	AD000000	0	347K L OBJ
84	00H-03782	AD000000	0	347K L OBJ
85	00H-03786	AD000000	0	347K L OBJ
86	00H-03790	AD000000	0	347K L OBJ
87	00H-03794	AD000000	0	347K L OBJ
88	00H-03798	AD000000	0	347K L OBJ
89	00H-03802	AD000000	0	347K L OBJ
90	00H-03806	AD000000	0	347K L OBJ
91	00H-03810	AD000000	0	347K L OBJ
92	00H-03814	AD000000	0	347K L OBJ
93	00H-03818	AD000000	0	347K L OBJ
94	00H-03822	AD000000	0	347K L OBJ
95	00H-03826	AD000000	0	347K L OBJ
96	00H-03830	AD000000	0	347K L OBJ
97	00H-03834	AD000000	0	347K L OBJ
98	00H-03838	AD000000	0	347K L OBJ
99	00H-03842	AD000000	0	347K L OBJ
100	00H-03846	AD000000	0	347K L OBJ
101	00H-03850	AD000000	0	347K L OBJ
102	00H-03854	AD000000	0	347K L OBJ
103	00H-03858	AD000000	0	347K L OBJ
104	00H-03862	AD000000	0	347K L OBJ
105	00H-03866	AD000000	0	347K L OBJ
106	00H-03870	AD000000	0	347K L OBJ
107	00H-03874	AD000000	0	347K L OBJ
108	00H-03878	AD000000	0	347K L OBJ
109	00H-03882	AD000000	0	347K L OBJ
110	00H-03886	AD000000	0	347K L OBJ
111	00H-03890	AD000000	0	347K L OBJ
112	00H-03894	AD000000	0	347K L OBJ
113	00H-03898	AD000000	0	347K L OBJ
114	00H-03902	AD000000	0	347K L OBJ
115	00H-03906	AD000000	0	347K L OBJ
116	00H-03910	AD000000	0	347K L OBJ
117	00H-03914	AD000000	0	347K L OBJ
118	00H-03918	AD000000	0	347K L OBJ
119	00H-03922	AD000000	0	347K L OBJ
120	00H-03926	AD000000	0	347K L OBJ
121	00H-03930	AD000000	0	347K L OBJ
122	00H-03934	AD000000	0	347K L OBJ
123	00H-03938	AD000000	0	347K L OBJ
124	00H-03942	AD000000	0	347K L OBJ
125	00H-03946	AD000000	0	347K L OBJ
126	00H-03950	AD000000	0	347K L OBJ
127	00H-03954	AD000000	0	347K L OBJ
128	00H-03958	AD000000	0	347K L OBJ
129	00H-03962	AD000000	0	347K L OBJ
130	00H-03966	AD000000	0	347K L OBJ
131	00H-03970	AD000000	0	347K L OBJ
132	00H-03974	AD000000	0	347K L OBJ
133	00H-03978	AD000000	0	347K L OBJ
134	00H-03982	AD000000	0	347K L OBJ
135	00H-03986	AD000000	0	347K L OBJ
136	00H-03990	AD000000	0	347K L OBJ
137	00H-03994	AD000000	0	347K L OBJ
138	00H-03998	AD000000	0	347K L OBJ
139	00H-04002	AD000000	0	347K L OBJ
140	00H-04006	AD000000	0	347K L OBJ
141	00H-04010	AD000000	0	347K L OBJ
142	00H-04014	AD000000	0	347K L OBJ
143	00H-04018	AD000000	0	347K L OBJ
144	00H-04022	AD000000	0	347K L OBJ
145	00H-04026	AD000000	0	347K L OBJ
146	00H-04030	AD000000	0	347K L OBJ
147	00H-04034	AD000000	0	347K L OBJ
148	00H-04038	AD000000	0	347K L OBJ
149	00H-04042	AD000000	0	347K L OBJ
150	00H-04046	AD000000	0	347K L OBJ
151	00H-04050	AD000000	0	347K L OBJ
152	00H-04054	AD000000	0	347K L OBJ
153	00H-04058	AD000000	0	347K L OBJ
154	00H-04062	AD000000	0	347K L OBJ
155	00H-04066	AD000000	0	347K L OBJ
156	00H-04070	AD000000	0	347K L OBJ
157	00H-04074	AD000000	0	347K L OBJ
158	00H-04078	AD000000	0	347K L OBJ
159	00H-04082	AD000000	0	347K L OBJ
160	00H-04086	AD000000	0	347K L OBJ
161	00H-04090	AD000000	0	347K L OBJ
162	00H-04094	AD000000	0	347K L OBJ
163	00H-04098	AD000000	0	347K L OBJ
164	00H-04102	AD000000	0	347K L OBJ
165	00H-04106	AD000000	0	347K L OBJ
166	00H-04110	AD000000	0	347K L OBJ
167	00H-04114	AD000000	0	347K L OBJ
168	00H-04118	AD000000	0	347K L OBJ
169	00H-04122	AD000000	0	347K L OBJ
170	00H-04126	AD000000	0	347K L OBJ
171	00H-04130	AD000000	0	347K L OBJ
172	00H-04134	AD000000	0	347K L OBJ
173	00H-04138	AD000000	0	347K L OBJ
174	00H-04142	AD000000	0	347K L OBJ
175	00H-04146	AD000000	0	347K L OBJ
176	00H-04150	AD000000	0	347K L OBJ
177	00H-04154	AD000000	0	347K L OBJ
178	00H-04158	AD000000	0	347K L OBJ
179	00H-04162	AD000000	0	347K L OBJ
180	00H-04166	AD000000	0	347K L OBJ
181	00H-04170	AD000000	0	347K L OBJ
182	00H-04174	AD000000	0	347K L OBJ
183	00H-04178	AD000000	0	347K L OBJ
184	00H-04182	AD000000	0	347K L OBJ
185	00H-04186	AD000000	0	347K L OBJ
186	00H-04190	AD000000	0	347K L OBJ
187	00H-04194	AD000000	0	347K L OBJ
188	00H-04198	AD000000	0	347K L OBJ
189	00H-04202	AD000000	0	347K L OBJ
190	00H-04206	AD000000	0	347K L OBJ
191	00H-04210	AD000000	0	347K L OBJ
192	00H-04214	AD000000	0	347K L OBJ
193	00H-04218	AD000000	0	347K L OBJ
194	00H-04222	AD000000	0	347K L OBJ
195	00H-04226	AD000000	0	347K L OBJ
196	00H-04230	AD000000	0	347K L OBJ
197	00H-04234	AD000000	0	347K L OBJ
198	00H-04238	AD000000	0	347K L OBJ
199	00H-04242	AD000000	0	347K L OBJ
200	00H-04246	AD000000	0	347K L OBJ
201	00H-04250	AD000000	0	347K L OBJ
202	00H-04254	AD000000	0	347K L OBJ
203	00H-04258	AD000000	0	347K L OBJ
204	00H-04262	AD000000	0	347K L OBJ
205	00H-04266	AD000000	0	347K L OBJ
206	00H-04270	AD000000	0	347K L OBJ
207	00H-04274	AD000000	0	347K L OBJ
208	00H-04278	AD000000	0	347K L OBJ
209	00H-04282	AD000000	0	347K L OBJ
210	00H-04286	AD000000	0	347K L OBJ
211	00H-04290	AD000000	0	347K L OBJ
212	00H-04294	AD000000	0	347K L OBJ
213	00H-04298	AD000000	0	347K L OBJ
214	00H-04302	AD000000	0	347K L OBJ
215	00H-04306	AD000000	0	347K L OBJ
216	00H-04310	AD000000	0	347K L OBJ
217	00H-04314	AD000000	0	347K L OBJ
218	00H-04318	AD000000	0	347K L OBJ
219	00H-04322	AD000000	0	347K L OBJ
220	00H-04326	AD000000	0	347K L OBJ
221	00H-04330	AD000000	0	347K L OBJ
222	00H-04334	AD000000	0	347K L OBJ
223	00H-04338	AD000000	0	347K L OBJ
224	00H-04342	AD000000	0	347K L OBJ
225	00H-04346	AD000000	0	347K L OBJ
226	00H-04350	AD000000	0	347K L OBJ
227	00H-04354	AD000000	0	347K L OBJ
228	00H-04358	AD		

Figure 107 (continued)

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
REFLECTION	N12.00	SCVERSHENIYE OVANI-F	00K-0021	ND11N100	N-A		186715000000
PHYSICAL	A04.00	FIZICHESK-QJ	00K-0022	AD01000	-G-CIP	P4	208330000000
STATISTICAL	N04.10	STATISTIK-I	00K-0023	ND11F000	-G-N-A		192000000000
..		..	00K-0024		-F-F-F		
..		..	00K-0025		-F-F-F		
..		..	00K-0026		-F-F-F		
..		..	00K-0027		-F-F-F		
..		..	00K-0028		-F-F-F		
..		..	00K-0029		-F-F-F		
..		..	00K-0030		-F-F-F		
..		..	00K-0031		-F-F-F		
..		..	00K-0032		-F-F-F		
..		..	00K-0033		-F-F-F		
..		..	00K-0034		-F-F-F		
..		..	00K-0035		-F-F-F		
..		..	00K-0036		-F-F-F		
..		..	00K-0037		-F-F-F		
..		..	00K-0038		-F-F-F		
..		..	00K-0039		-F-F-F		
..		..	00K-0040		-F-F-F		
..		..	00K-0041		-F-F-F		
..		..	00K-0042		-F-F-F		
..		..	00K-0043		-F-F-F		
..		..	00K-0044		-F-F-F		
..		..	00K-0045		-F-F-F		
..		..	00K-0046		-F-F-F		
..		..	00K-0047		-F-F-F		

An Analyzed Sentence  
Figure 108

# ANALYZED TEXT

SYNTACTIC ROLE	PRE-ferred ARGUMENT	SIZE OF POOL	CHAIN NO	ANALYZED TEXT
111 SUBJECT	N-----	00 16	00 16	COVERSHIPS
021 N COMP	-G-----	00 10	00 10	STATISTICS
022 N COMPM	-F-----	00 14	00 14	STATISTICS
INF COMMA	-F-----	00 14	00 14	STATISTICS
INF CONJUNCT	-F-----	00 26	00 26	STATISTICS
INF ADVB	-F-----	00 24	00 24	STATISTICS
022C N COMP	-F-----	00 24	00 24	STATISTICS
027 N COMP	-F-----	00 24	00 24	STATISTICS
028 N COMP	-F-----	00 24	00 24	STATISTICS
INF COMMA	-F-----	00 20	00 20	STATISTICS
111 V PRED	SSS-00AND0	00 31	00 31	STATISTICS
INF PREP	100000400300	00 04	00 04	STATISTICS
032 R COMP	-F-----	00 04	00 04	STATISTICS
033 N COMP	-F-----	00 12	00 12	STATISTICS
031 OBJECT	-F-----	00 14	00 14	STATISTICS
035 OBJECTH	-F-----	00 14	00 14	STATISTICS
036 N COMP	-F-----	00 14	00 14	STATISTICS
INF COMMA	-F-----	00 24	00 24	STATISTICS
INF NEGATIVE	-F-----	00 24	00 24	STATISTICS
037 N COMPM	-F-----	00 24	00 24	STATISTICS
INF PREP	-F-----	00 20	00 20	STATISTICS
041 R COMP	-F-----	00 23	00 23	STATISTICS
042 R COMP	-F-----	00 27	00 27	STATISTICS
043 N COMPM	-F-----	00 27	00 27	STATISTICS
INF COMMA	-F-----	00 34	00 34	STATISTICS
040 N COMPM	-F-----	00 14	00 14	STATISTICS
END OF SENT.	-F-----			

## HINDSIGHT

INTERSECTING ARGUMENTS	ALTERNATIVE ROLE
-A-----	111 L OBJ
-A-----	021 AGENT
-A-----	111 L OBJ
-A-----	111 IND OBJ
-A-----	111 L OBJ
-A-----	INF CLAUSER
-A-----	INF CONJUNCT
-A-----	INF ADVB
-A-----	111 L OBJ
-A-----	INF CLAUSER
-A-----	INF CONJUNCT
-A-----	INF CLAUSER
-A-----	INF CONJUNCT
-A-----	040 AGENT
-A-----	111 IND OBJ
-A-----	111 IND OBJ
-A-----	INF CLAUSER
-A-----	INF CONJUNCT
-A-----	END OF SENT.

Figure 108 (continued)

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
INTERFERENCE	101.00	POKHT-OMU	CUH-05521	C			154200714285
MASTERING	101.00	POKHT-OMU	CUH-05521	C			154200000000
STRIP	101.00	OSVCHENI-E	CUH-0553	NDIIN100	N-A-----	Pu	129126250000
INF	101.00	POKHT-OMU	CUH-0554	AD00000	-----GA-P		150576666666
DE	101.00	LIN-IJ	CUH-0555	NDIIF000	-----F		100100000000
WARM	101.00	ALU-ET	CUH-0556	VM UN00000	-----T-XAD-	B2B4	010410000000
CONSIDERABLE	101.00	POKHT-OMU	CUH-0557	VM0000000	-----F	B7B1BUB6	125707000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0558	AD00000	N-A-----		120110000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0559	AD00000	N-A-----		072900000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0560	NDIIN000	N-A-----		161541000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0561	NDIIN000	N-A-----		135910000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0562	NDIIN000	N-A-----		164225000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0563	AD00000	-----N-A		197700000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0564	NDIIF000	-----M		161526875000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0565	NDIIF000	-----M		000000000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0566	VS00P70000	-----I-CAD-	B2	000000000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0567	AD00000	-----N-A		132174285713
ADVANCEMENT	101.00	POKHT-OMU	CUH-0568	NDIIF000	-----F-F-F	P2P9	120110000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0569	NDIIN000	-----A-P	PAOR00AB0650	021500416655
ADVANCEMENT	101.00	POKHT-OMU	CUH-0570	NDIIN000	-----N		000000000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0571	AD00000	-----N		000000000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0572	NDIIN000	-----N		194040000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0573	NDIIF000	-----N		143360000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0574	NDIIF000	-----F-F-F		162310000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0575	NDIIN000	-----M		201125000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0576	NDIIN000	-----P	PNOR00A00600	154205555554
ADVANCEMENT	101.00	POKHT-OMU	CUH-0577	KDK0000	-----N		162300000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0578	AD00000	-----GA-P		108223333332
ADVANCEMENT	101.00	POKHT-OMU	CUH-0579	NDIIN000	-----M		016040000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0580	AD00000	-----G		016040000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0581	NDIIF000	-----F-F-F		168750000000
ADVANCEMENT	101.00	POKHT-OMU	CUH-0582	NDIIF000	-----N-A		003400000000

An Analyzed Sentence  
Figure 109

ANALYZED TEXT

SIZE OF POOL	CHAIN NO	SYNTACTIC ROLE	PREFERRED ARGUMENT
14	04-05521	R	ADJIN100
17	04-0553	ADJIN100	C
17	04-0554	ADJIN100	1
17	04-0555	ADJIN100	3
17	04-0556	ADJIN100	FC
17	04-0557	ADJIN100	FC
17	04-0558	ADJIN100	FC
17	04-0559	ADJIN100	FC
17	04-0560	ADJIN100	FC
17	04-0561	ADJIN100	FC
17	04-0562	ADJIN100	FC
17	04-0563	ADJIN100	FC
17	04-0564	ADJIN100	FC
17	04-0565	ADJIN100	FC
17	04-0566	ADJIN100	FC
17	04-0567	ADJIN100	FC
17	04-0568	ADJIN100	FC
17	04-0569	ADJIN100	FC
17	04-0570	ADJIN100	FC
17	04-0571	ADJIN100	FC
17	04-0572	ADJIN100	FC
17	04-0573	ADJIN100	FC
17	04-0574	ADJIN100	FC
17	04-0575	ADJIN100	FC
17	04-0576	ADJIN100	FC
17	04-0577	ADJIN100	FC
17	04-0578	ADJIN100	FC
17	04-0579	ADJIN100	FC
17	04-0580	ADJIN100	FC
17	04-0581	ADJIN100	FC

HINDSIGHT

14	04-05521	R	ADJIN100
17	04-0553	ADJIN100	C
17	04-0554	ADJIN100	1
17	04-0555	ADJIN100	3
17	04-0556	ADJIN100	FC
17	04-0557	ADJIN100	FC
17	04-0558	ADJIN100	FC
17	04-0559	ADJIN100	FC
17	04-0560	ADJIN100	FC
17	04-0561	ADJIN100	FC
17	04-0562	ADJIN100	FC
17	04-0563	ADJIN100	FC
17	04-0564	ADJIN100	FC
17	04-0565	ADJIN100	FC
17	04-0566	ADJIN100	FC
17	04-0567	ADJIN100	FC
17	04-0568	ADJIN100	FC
17	04-0569	ADJIN100	FC
17	04-0570	ADJIN100	FC
17	04-0571	ADJIN100	FC
17	04-0572	ADJIN100	FC
17	04-0573	ADJIN100	FC
17	04-0574	ADJIN100	FC
17	04-0575	ADJIN100	FC
17	04-0576	ADJIN100	FC
17	04-0577	ADJIN100	FC
17	04-0578	ADJIN100	FC
17	04-0579	ADJIN100	FC
17	04-0580	ADJIN100	FC
17	04-0581	ADJIN100	FC

SYNTACTIC  
ROLE

1552 SUBJECT	N
553 N COMP	A
554 N COMP	A
555 V PRED	G
556 V PRED	G
557 OBJECTM	A
558 OBJECTM	A
559 OBJECTM	A
560 OBJECTM	A
561 R COMP	A
562 N COMP	A
563 N COMP	A
564 N COMP	A
565 N COMP	A
566 OBJECTM	A
567 OBJECTM	A
568 OBJECTM	A
569 R COMP	A
570 N COMP	A
571 N COMP	A
572 N COMP	A
573 N COMP	A
574 N COMP	A
575 R COMP	A
576 N COMP	A
577 N COMP	A
578 N COMP	A
579 N COMP	A
END OF SENT.	

ALTERNATIVE  
ROLE

1552 SUBJECT	N
553 N COMP	A
554 N COMP	A
555 V PRED	G
556 V PRED	G
557 OBJECTM	A
558 OBJECTM	A
559 OBJECTM	A
560 OBJECTM	A
561 R COMP	A
562 N COMP	A
563 N COMP	A
564 N COMP	A
565 N COMP	A
566 OBJECTM	A
567 OBJECTM	A
568 OBJECTM	A
569 R COMP	A
570 N COMP	A
571 N COMP	A
572 N COMP	A
573 N COMP	A
574 N COMP	A
575 R COMP	A
576 N COMP	A
577 N COMP	A
578 N COMP	A
579 N COMP	A
END OF SENT.	

INTERSECTING ARGUMENTS

1552 SUBJECT	N
553 N COMP	A
554 N COMP	A
555 V PRED	G
556 V PRED	G
557 OBJECTM	A
558 OBJECTM	A
559 OBJECTM	A
560 OBJECTM	A
561 R COMP	A
562 N COMP	A
563 N COMP	A
564 N COMP	A
565 N COMP	A
566 OBJECTM	A
567 OBJECTM	A
568 OBJECTM	A
569 R COMP	A
570 N COMP	A
571 N COMP	A
572 N COMP	A
573 N COMP	A
574 N COMP	A
575 R COMP	A
576 N COMP	A
577 N COMP	A
578 N COMP	A
579 N COMP	A
END OF SENT.	

Figure 109 (continued)

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMIOrganized WORD	DICTIONARY SERIAL NO.
..	101.00	N-A	00K-0252	H	--A--P--A--P	PAOR00DF0560	1107P0000000
..	101.00	VE-F	00K-0253	PK K ATF	N-A--N-A--		02725000000
..	101.00	EMT-I	00K-0254	PK K PTD	N-A--N-A--		21891958332
..	101.00	EMT-I	00K-0255	C	-----N-A--		0000P000000
..	101.00	EMT-I	00K-0256	H	-----N-A--		0000P500000
..	101.00	VE-F	00K-0257	KOKIOO	-----N-A--		10822333332
..	101.00	VE-F	00K-0258	KOKIOO	-----N-A--		05579000000
..	101.00	VE-F	00K-0259	VN 0000000	-----N-A--		03217000000
..	101.00	VE-F	00K-0260	VN 0000000	-----N-A--		04507000000
..	101.00	VE-F	00K-0261	AD01000	-----N-A--		13062000000
..	101.00	VE-F	00K-0262	AD01000	-----N-A--		1920P500000
..	101.00	VE-F	00K-0263	AD01000	-----N-A--		19713000000
..	101.00	VE-F	00K-0264	AD01000	-----N-A--		05189666666
..	101.00	VE-F	00K-0265	H	--A--P--A--P	PAOR00AB0650	00002000000
..	101.00	VE-F	00K-0266	NO12F000	-----N-A--		12934000000
..	101.00	VE-F	00K-0267	PK K STRITC	-----N-A--		0850P9795915
..	101.00	VE-F	00K-0268	VN 0000000	-----N-A--		09921000000
..	101.00	VE-F	00K-0269	NO11F000	-----N-A--		18713000000
..	101.00	VE-F	00K-0270	AD00000	-----N-A--		185731145827
..	101.00	VE-F	00K-0271	AD01000	-----N-A--		16497000000
..	101.00	VE-F	00K-0272	AD01000	-----N-A--		07840000000
..	101.00	VE-F	00K-0273	C	-----N-A--		085242333360
..	101.00	VE-F	00K-0274	C	-----N-A--		08524000000
..	101.00	VE-F	00K-0275	H	-----N-A--		1894P9428577
..	101.00	VE-F	00K-0276	AD00000	-----N-A--		19713750000
..	101.00	VE-F	00K-0277	H	-----N-A--		04265000000
..	101.00	VE-F	00K-0278	VN 0000000	-----N-A--		19713000000
..	101.00	VE-F	00K-0279	VN 0000000	-----N-A--		19273500000
..	101.00	VE-F	00K-0280	AD01000	-----N-A--		16497000000
..	101.00	VE-F	00K-0281	AD01000	-----N-A--		19713000000
..	101.00	VE-F	00K-0282	AD01000	-----N-A--		19273500000
..	101.00	VE-F	00K-0283	AD01000	-----N-A--		16497000000

An Analyzed Sentence

Figure 110



HINDSIGHT		INTERSECTING ARGUMENTS		ALTERNATIVE ROLE
100K-0253	PN K ATF	0	---	252 R COMP
100K-0253	PA K ATF	0	---	111 SUBJECT
100K-0253	PN K ATF	0	---	111 SUBJECT
100K-0253	PA K ATF	0	---	111 L OBJ
100K-0254	PN K ATF	0	---	111 L OBJ
100K-0254	PA K PTD	0	---	253 R COMP
100K-0254	PN K PTD	0	---	111 SUBJECT
100K-0254	PA K PTD	0	---	111 SUBJECT
100K-0254	PN K PTD	0	---	111 L OBJ
100K-0255	H	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	INF ADVB
100K-0255	ACK0A00	0	---	254 R COMP
100K-0255	MDK0A00	0	---	253C R COMP
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	256 R COMP
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111 L OBJ
100K-0255	MDK0A00	0	---	111 SUBJECT
100K-0255	ADK0A00	0	---	111 SUBJECT
100K-0255	MDK0A00	0	---	111 L OBJ
100K-0255	ADK0A00	0	---	111

Figure 110 (continued)

# UNANALYZED TEXT

FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	3rd SEMI-ORGANIZED WORD	DICTIONARY SERIAL NO.
APPLICATION	N10.00	PRIMENENT-1	CUH-0517	ND11M000	N-A	N-N	159010000000
STRIP	AC1.00	POLOSNOV-YA	CUH-0518	AD000000	6A-P	P4	150576666666
INF	N07.00	LIN-IJ	CUH-0519	ND11F000	6A-P	AA-A	100100000000
..	..	..	CUH-0520	..	..	..	..
..	101.00	KAN-	CUH-0521	C	..	..	085242333360
..	101.00	KAN-	CUH-0522	M	..	..	085240000000
..	V21.00	SYU-U	CUH-0523	H	..	..	010806666666
..	101.00	IZM-E	CUH-0524	AD000000	..	B3	202700000000
..	AC1.00	POKJANIT-U	CUH-0525	..	N	P300 F2	204419411760
..	..	..	CUH-0526	VN 0P20000	..	..	..
..	V01.00	POVULJA-ET	CUH-0527	R	..	BOB1B0B6	149050000000
..	101.00	V-O	CUH-0528	KDK0400	..	PAOR0AB0650	011115000000
..	AC1.00	MNGG-IX	CUH-0529	ND11M000	..	..	108223333332
..	N02.00	SLUCHA-JAY	CUH-0530	AD000000	..	P9	185700000000
..	AD2.00	ZNACHITELN-O	CUH-0531	VS0070000	..	..	072900000000
..	V04.00	IMPL-SHIT	CUH-0532	ND11M000	..	BOB6	203950000000
..	N01.00	BALEBY	CUH-0533	C	..	..	171222500000
..	101.00	I	CUH-0534	M	..	..	000000000000
..	101.00	I	CUH-0535	ND11M300	..	..	000000000000
..	N01.00	VFS-	CUH-0536	AD010000	..	..	013940000000
..	AC1.00	PACTUTEYNIC	CUH-0537	ND12F000	..	..	168750000000
..	N04.00	APPARATIP-Y	CUH-0538	ND12F100	..	..	003400000000
..	..	..	CUH-0539	ND11F000	..	..	..
..	N04.00	PROSTOT-A	CUH-0540	AD000000	..	..	..
..	N07.00	KONSTRUKTSI-J	CUH-0541	ND11M000	..	..	..
..	AC1.00	POLOSNOV-YA	CUH-0542	C	..	..	..
..	N01.00	CHLPHENT-OV	CUH-0543	ND11M000	..	..	..
..	101.00	I	CUH-0544	VN 0000000	..	BOB1B0B6	164100000000
..	101.00	I	CUH-0545	AD010000	..	..	092100000000
..	N01.00	IZL-OV	CUH-0546	ND11F000	..	..	150576666666
..	V01.00	POHUSKA-ET	CUH-0547	C	..	..	218340000000
..	AC1.00	SHIPOK-IJU	CUH-0548	ND11M000	..	..	000000000000
..	N07.00	AVTOMATIZAT-I-JU	CUH-0549	ND11M000	..	..	000000000000
..	101.00	I	CUH-0550	ND11M000	..	..	000000000000
..	101.00	I	CUH-0551	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0552	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0553	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0554	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0555	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0556	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0557	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0558	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0559	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0560	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0561	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0562	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0563	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0564	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0565	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0566	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0567	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0568	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0569	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0570	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0571	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0572	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0573	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0574	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0575	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0576	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0577	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0578	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0579	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0580	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0581	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0582	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0583	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0584	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0585	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0586	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0587	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0588	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0589	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0590	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0591	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0592	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0593	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0594	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0595	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0596	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0597	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0598	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0599	ND11M000	..	..	000000000000
..	N01.00	ICESHEVENI-E	CUH-0600	ND11M000	..	..	000000000000

An Analyzed Sentence  
Figure 111

ANALYZED TEXT									
APPLICATION	CHAIN NO	SIZE OF POOL		SYNTACTIC ROLE	PREFERRED ARGUMENT	R4	B3	R400	B08184B6
		NO	17						
APPLICATION	NO.00	PRIMEVAL-E	NO 18 00H-0517	111 SUBJECT	N-----				
LINE	NO.00	POLOSOU-YA	NO 10 00H-0518	517 N COMP	N-----				
..	NO.00	LTA-LU	NO 14 00H-0519	518 N COMP	N-----				
..	NO.00	..	NO 14 00H-0520	INF COMMA	N-----				
..	NO.00	KAR-	NO 25 00H-0521	520K R CONJ	N-----				
..	NO.00	YU-C	NO 19 00H-0522	521 V PRED	N-----				
..	NO.00	ZHE-E	NO 18 00H-0523	INF ADVB	N-----				
..	NO.00	PUJANIT-C	NO 18 00H-0524	522 V COMP	N-----				
..	NO.00	..	NO 20 00H-0525	INF COMMA	N-----				
..	NO.00	PCLVULU-FT	NO 31 00H-0526	111 V PRED	N-----				
..	NO.00	..	NO 04 00H-0527	INF COMMA	N-----				
..	NO.00	WNG-IX	NO 09 00H-0528	527 R COMP	N-----				
..	NO.00	SLUHA-JAX	NO 13 00H-0529	528 R COMPM	N-----				
..	NO.00	ZNACHTELIN-C	NO 14 00H-0530	INF ADVB	N-----				
..	NO.00	IMUN-SHT-Y	NO 14 00H-0531	529 V MAST	N-----				
..	NO.00	VALVER-V	NO 14 00H-0532	531 OBJECT	N-----				
..	NO.00	..	NO 19 00H-0533	INF CONJUNCT	N-----				
..	NO.00	VEE-	NO 21 00H-0534	532C OBJECT	N-----				
..	NO.00	VALTUTERNICH-FSK-OJ	NO 25 00H-0535	534 N COMP	N-----				
..	NO.00	APPARATIP-V	NO 25 00H-0536	535 N COMPM	N-----				
..	NO.00	..	NO 25 00H-0537	END OF SENT.	N-----				
..	NO.00	PRESTOTI-A	NO 18 00H-0538	111 SUBJECT	N-----				
..	NO.00	KONSTRUKTISI-J	NO 09 00H-0539	538 N COMP	N-----				
..	NO.00	POLOSOU-YA	NO 12 00H-0540	539 N COMP	N-----				
..	NO.00	EMPLMENT-OV	NO 14 00H-0541	540 N COMPM	N-----				
..	NO.00	..	NO 14 00H-0542	INF CONJUNCT	N-----				
..	NO.00	UZL-OV	NO 14 00H-0543	540C N COMP	N-----				
..	NO.00	POLOSOU-FT	NO 14 00H-0544	111 V PRED	N-----				
..	NO.00	SHAPUK-IJU	NO 04 00H-0545	544 OBJECT	N-----				
..	NO.00	AVTOMATIZATSI-I-J	NO 10 00H-0546	545 OBJECTH	N-----				
..	NO.00	..	NO 10 00H-0547	INF CONJUNCT	N-----				
..	NO.00	IPLESHEVENI-F	NO 10 00H-0548	545C OBJECT	N-----				
..	NO.00	PRUTSESS-OV	NO 11 00H-0549	548 N COMP	N-----				
..	NO.00	PRUTZVONSTIV-A	NO 14 00H-0550	549 N COMP	N-----				
..	NO.00	..	NO 17 00H-0551	END OF SENT.	N-----				

Figure 111 (continued)

[illegible]

Figure 111 (continued)

UNANALYZED TEXT									
FIRST ENGLISH EQUIVALENT	CLASS MARKER	RUSSIAN WORD (TRANSLITERATED)	TEXT SERIAL NO.	ORGANIZED WORD	ALTERNATIVE ARGUMENTS	SEMIOrganized WORD	3rd WORD	DICTIONARY SERIAL NO.	
...	...	...	000-0272	W	---	PAOPORARU650	000000000000	000000000000	
...	...	...	000-0273	W	---	---	---	219726874994	
...	...	...	000-0274	W	---	---	---	185700000000	
...	...	...	000-0275	W	---	---	---	154245555554	
...	...	...	000-0276	W	---	---	---	162300000000	
...	...	...	000-0277	W	---	---	---	150576666666	
...	...	...	000-0278	W	---	---	---	202800000000	
...	...	...	000-0279	W	---	---	---	211875000000	
...	...	...	000-0280	W	---	---	---	159050000000	
...	...	...	000-0281	W	---	---	---	106600000000	
...	...	...	000-0282	W	---	---	---	075270000000	
...	...	...	000-0283	W	---	---	---	142670000000	
...	...	...	000-0284	W	---	---	---	194309444444	
...	...	...	000-0285	W	---	---	---	089281666665	
...	...	...	000-0286	W	---	---	---	089250000000	
...	...	...	000-0287	W	---	---	---	150576666666	
...	...	...	000-0288	W	---	---	---	161300000000	
...	...	...	000-0289	W	---	---	---	108900000000	
...	...	...	000-0290	W	---	---	---	010650000000	
...	...	...	000-0291	W	---	---	---	114500000000	
...	...	...	000-0292	W	---	---	---	---	
...	...	...	000-0293	W	---	---	---	---	
...	...	...	000-0294	W	---	---	---	---	
...	...	...	000-0295	W	---	---	---	---	
...	...	...	000-0296	W	---	---	---	---	
...	...	...	000-0297	W	---	---	---	---	
...	...	...	000-0298	W	---	---	---	---	
...	...	...	000-0299	W	---	---	---	---	
...	...	...	000-0300	W	---	---	---	---	
...	...	...	000-0301	W	---	---	---	---	
...	...	...	000-0302	W	---	---	---	---	
...	...	...	000-0303	W	---	---	---	---	
...	...	...	000-0304	W	---	---	---	---	
...	...	...	000-0305	W	---	---	---	---	
...	...	...	000-0306	W	---	---	---	---	
...	...	...	000-0307	W	---	---	---	---	
...	...	...	000-0308	W	---	---	---	---	
...	...	...	000-0309	W	---	---	---	---	
...	...	...	000-0310	W	---	---	---	---	
...	...	...	000-0311	W	---	---	---	---	
...	...	...	000-0312	W	---	---	---	---	
...	...	...	000-0313	W	---	---	---	---	

An Analyzed Sentence

Figure 112

ANALYZED TEXT	CHAIN NO	SIZE OF POOL	PREFERRED ARGUMENT	SYNTAGTIC ROLE
10100 V	00 1R	00H-0272	PA K STD	0
10100 FRI-UM	00 41	00H-0273	PA K STD	0
10100 SOUTH-AP	00 25	00H-0274	PA K STD	0
10100 COT	00 42	00H-0275	PA K STD	0
10100 PULZVUTV-F	00 47	00H-0276	PA K STD	0
10100 PULZVUTV-A	00 30	00H-0277	PA K STD	0
10100 PULZVUTV-A	00 31	00H-0278	PA K STD	0
10100 PULZVUTV-A	00 32	00H-0279	PA K STD	0
10100 PULZVUTV-A	00 33	00H-0280	PA K STD	0
10100 PULZVUTV-A	00 34	00H-0281	PA K STD	0
10100 PULZVUTV-A	00 35	00H-0282	PA K STD	0
10100 PULZVUTV-A	00 36	00H-0283	PA K STD	0
10100 PULZVUTV-A	00 37	00H-0284	PA K STD	0
10100 PULZVUTV-A	00 38	00H-0285	PA K STD	0
10100 PULZVUTV-A	00 39	00H-0286	PA K STD	0
10100 PULZVUTV-A	00 40	00H-0287	PA K STD	0
10100 PULZVUTV-A	00 41	00H-0288	PA K STD	0
10100 PULZVUTV-A	00 42	00H-0289	PA K STD	0
10100 PULZVUTV-A	00 43	00H-0290	PA K STD	0
10100 PULZVUTV-A	00 44	00H-0291	PA K STD	0
10100 PULZVUTV-A	00 45	00H-0292	PA K STD	0
10100 PULZVUTV-A	00 46	00H-0293	PA K STD	0
10100 PULZVUTV-A	00 47	00H-0294	PA K STD	0
10100 PULZVUTV-A	00 48	00H-0295	PA K STD	0
10100 PULZVUTV-A	00 49	00H-0296	PA K STD	0
10100 PULZVUTV-A	00 50	00H-0297	PA K STD	0
10100 PULZVUTV-A	00 51	00H-0298	PA K STD	0
10100 PULZVUTV-A	00 52	00H-0299	PA K STD	0
10100 PULZVUTV-A	00 53	00H-0300	PA K STD	0
10100 PULZVUTV-A	00 54	00H-0301	PA K STD	0
10100 PULZVUTV-A	00 55	00H-0302	PA K STD	0
10100 PULZVUTV-A	00 56	00H-0303	PA K STD	0
10100 PULZVUTV-A	00 57	00H-0304	PA K STD	0
10100 PULZVUTV-A	00 58	00H-0305	PA K STD	0
10100 PULZVUTV-A	00 59	00H-0306	PA K STD	0
10100 PULZVUTV-A	00 60	00H-0307	PA K STD	0
10100 PULZVUTV-A	00 61	00H-0308	PA K STD	0
10100 PULZVUTV-A	00 62	00H-0309	PA K STD	0
10100 PULZVUTV-A	00 63	00H-0310	PA K STD	0
10100 PULZVUTV-A	00 64	00H-0311	PA K STD	0
10100 PULZVUTV-A	00 65	00H-0312	PA K STD	0
10100 PULZVUTV-A	00 66	00H-0313	PA K STD	0
10100 PULZVUTV-A	00 67	00H-0314	PA K STD	0
10100 PULZVUTV-A	00 68	00H-0315	PA K STD	0
10100 PULZVUTV-A	00 69	00H-0316	PA K STD	0
10100 PULZVUTV-A	00 70	00H-0317	PA K STD	0
10100 PULZVUTV-A	00 71	00H-0318	PA K STD	0
10100 PULZVUTV-A	00 72	00H-0319	PA K STD	0
10100 PULZVUTV-A	00 73	00H-0320	PA K STD	0
10100 PULZVUTV-A	00 74	00H-0321	PA K STD	0
10100 PULZVUTV-A	00 75	00H-0322	PA K STD	0
10100 PULZVUTV-A	00 76	00H-0323	PA K STD	0
10100 PULZVUTV-A	00 77	00H-0324	PA K STD	0
10100 PULZVUTV-A	00 78	00H-0325	PA K STD	0
10100 PULZVUTV-A	00 79	00H-0326	PA K STD	0
10100 PULZVUTV-A	00 80	00H-0327	PA K STD	0
10100 PULZVUTV-A	00 81	00H-0328	PA K STD	0
10100 PULZVUTV-A	00 82	00H-0329	PA K STD	0
10100 PULZVUTV-A	00 83	00H-0330	PA K STD	0
10100 PULZVUTV-A	00 84	00H-0331	PA K STD	0
10100 PULZVUTV-A	00 85	00H-0332	PA K STD	0

Figure 112 (continued)



UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
<p>1. Machine translation</p> <p>2. Natural language model</p> <p>3. Data processing systems</p> <p>I. Sherry, Murray E.</p>	<p>AF Cambridge Research Laboratories, Bedford, Mass., Electronics Research Directorate</p> <p>COMPREHENSIVE REPORT ON PREDICTIVE SYNTACTIC ANALYSIS, by Murray E. Sherry, September 1961, 243 pp incl. illus. AFRL 713</p> <p>Unclassified report</p> <p>Predictive syntactic analysis is a scheme for the automatic syntactic analysis of natural language that is based on a continuous left-to-right scan of a sentence. This report supersedes previous reports on the experimental predictive syntactic analysis program for Russian. All the grammatical rules followed by the experimental program are here included. This paper is intended to serve at this time both as a report of past accomplishments and as a working paper on which to base future research.</p>	<p>Machine translation</p> <p>Natural language model</p> <p>Data processing systems</p> <p>I. Sherry, Murray E.</p>
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